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- AGUERRI, J. A. L. A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. *I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa.* 573, L9 (2002)
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 - A Proper-Motion Survey for White Dwarfs with the Wide Field Planetary Camera 2. C. A. Nelson, K. H. Cook, T. S. Axelrod, J. R. Mould, & C. Alcock, 573, 644 (2002)
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- On the Nature of Angular Momentum Transport in Nonradiative Accretion Flows. Steven A. Balbus & John F. Hawley. 573, 749 (2002)
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- Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
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- BANDYOPADHYAY, REBA M. Eclipse Timings of the Low-Mass X-Ray Binary EXO 0748—676. III. Orbital Period Jitter Observed with the Unconventional Stellar Aspect Experiment and the Rossi X-Ray Timing Explorer. Michael T. Wolff, Paul Hertz, Kent S. Wood, Paul S. Ray, & Reba M. Bandyopadhyay. 575, 384 (2002)
- BAO, S. D. The Sources of Magnetic Field Twist in Solar Active Regions. S. D. Bao, T. Sakurai, & Y. Suematsu. 573, 445 (2002)
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- BAUM, S. A. H I Absorption in the Gigamaser Galaxy TXS 2226–184 and the Relation between H I Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
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- BECKLIN, E. E. Mid-Infrared Images of the Debris Disk around HD 141569.
 K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
- Spatially Resolved Observations of the Galactic Center Source IRS 21.
 A. Tanner, A. M. Ghez, M. Morris, E. E. Becklin, A. Cotera, M. Ressler, M. Werner, & P. Wizinowich. 575, 860 (2002)
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 - See KINKHABWALA, ALI, et al. XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068.
- BEKKI, KENJI. Extended H I Spiral Structure and the Figure Rotation of Triaxial Dark Halos. *Kenji Bekki & Kenneth C. Freeman.* 574, L21 (2002)
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- Beltrán, Maria T. IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)
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- Do Distinct Cosmological Models Predict Degenerate Halo Populations? Zheng Zheng, Jeremy L. Tinker, David H. Weinberg, & Andreas A. Berlind. 575, 617 (2002)
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- G. A. Doschek, U. Feldman, A. K. Bhatia, & A. Bar-Shalom. 574, 504 (2002)
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- BRANCH, DAVID. A Search for Radio Emission from Supernovae with Ages from about 1 Week to More than 80 Years. Christopher R. Eck, John J. Cowan, & David Branch. 573, 306 (2002)
- Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)

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- Creation of X-Ray Holes with Cool Rims in Cooling Flows. Fabrizio Brighenti & William G. Mathews. 574, L11 (2002)
- BRILLANT, S. Proper Motion in the Knotty, Biploar Jet in Henize 2-90.
 R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)
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- BRINKMANN, J. The Redshift of a Lensing Galaxy in PMN J0134-0931.
 Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton,
 David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann.
 575, L51 (2002)
- BRISKEN, W. F. Decapitating the Duck: The (Non)Association of PSR B1757-24 and Supernova Remnant G5.4-1.2. S. E. Thorsett, W. F. Brisken, & W. M. Goss. 573, L111 (2002)
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- BROMM, VOLKER. The Expected Redshift Distribution of Gamma-Ray Bursts. Volker Bromm & Abraham Loeb. 575, 111 (2002)
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- BROOS, PATRICK. X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III. Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- BROSIUS, JEFFREY W. Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- BROTHERTON, M. Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the *Hubble Space Telescope*. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)
- BROWN, EDWARD F. Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)
- Brown, G. E. Discovery of a Black Hole Mass-Period Correlation in Soft X-Ray Transients and Its Implication for Gamma-Ray Burst and Hypernova Mechanisms. C.-H. Lee, G. E. Brown, & R. A. M. J. Wijers. 575, 996 (2002)
- BUCHLER, J. ROBERT. Mode-switching Timescales in the Classical Variable Stars. J. Robert Buchler & Zoltán Kolláth. 573, 324 (2002)
- BUCKLEY, J. H. See Krennrich, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- BULIK, TOMASZ. Formation and Evolution of Microquasar GRS 1915+105.
 Krzysztof Belczynski & Tomasz Bulik. 574, L147 (2002)
- BUOTE, DAVID A. Chandra Observations of Abell 2029: No Cooling Flow and a Steep Abundance Gradient. Aaron D. Lewis, John T. Stocke, & David A. Buote. 573, L13 (2002)
- An XMM-Newton Observation of NGC 1399 Reveals Two Phases of Hot Gas and Supersolar Abundances in the Central Regions. David A. Buote. 574, L135 (2002)

- BURDERI, L. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star. L. Burderi, T. Di Salvo, L. Stella, F. Fiore, N. R. Robba, M. van der Klis, R. Iaria, M. Mendez, M. T. Menna, S. Campana, G. Gennaro, S. Rebecchi, & M. Burgay. 574, 930 (2002)
 - See Campana, S., et al. An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence.
- BURDERI, LUCIANO. PSR J1740—5340: Accretion Inhibited by Radio Ejection in a Binary Millisecond Pulsar in the Globular Cluster NGC 6397. Luciano Burderi, Francesca D'Antona, & Marta Burgay. 574, 325 (2002)
- BURGASSER, ADAM J. Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)
- BURGAY, M. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
- BURGAY, MARTA. PSR J1740-5340: Accretion Inhibited by Radio Ejection in a Binary Millisecond Pulsar in the Globular Cluster NGC 6397. Luciano Burderi, Francesca D'Antona, & Marta Burgay. 574, 325 (2002)
- BURGH, ERIC B. Rocket Observations of Far-Ultraviolet Dust Scattering in NGC 2023. Eric B. Burgh, Stephan R. McCandliss, & Paul D. Feldman. 575, 240 (2002)
- Burkepile, J. The Timing of Flares Associated with the Two Dynamical Types of Solar Coronal Mass Ejections. M. Zhang, L. Golub, E. DeLuca, & J. Burkepile. 574, L97 (2002)
 - See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- BURLES, SCOTT. The Cosmological Density and Ionization of Hot Gas: O vi Absorption in Quasar Spectra: Erratum (ApJ, 460, 584 [1996]). Scott Burles & David Tytler. 573, 471 (2002) (Orig. paper in 460, 584, 80-E4 (1996))
- Burrows, Adam. Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)
- BURROWS, DAVID N. See MICHAEL, ELI, et al. The X-Ray Spectrum of Supernova Remnant 1987A.
- BURSTEIN, DAVID. The Role of a Hot Gas Environment in the Evolution of Galaxies. David Burstein & George Blumenthal. 574, L17 (2002)
- CALLANAN, PAUL J. The Peculiar Infrared Counterpart of GX 17+2. Paul J. Callanan, Peter Curran, Alexei V. Filippenko, Michael R. Garcia, Bruce Margon, Eric Deutsch, Scott Anderson, Lee Homer, & Rob P. Fender. 574, L143 (2002)
- CALZETTI, DANIELA. Ultraviolet Spectra of Star-forming Galaxies with Time-dependent Dust Obscuration. Claus Leitherer, Daniela Calzetti, & Lucimara P. Martins. 574, 114 (2002)
- CAMERON, A. COLLIER. The Coronal Topology of the Rapidly Rotating K0 Dwarf AB Doradus. I. Using Surface Magnetic Field Maps to Model the Structure of the Stellar Corona. G. A. J. Hussain, A. A. van Ballegooijen, M. Jardine, & A. Collier Cameron. 575, 1078 (2002)
- CAMILO, F. The Next Geminga: Deep Multiwavelength Observations of a Neutron Star Identified with 3EG J1835+5918. J. P. Halpern, E. V. Gotthelf, N. Mirabal, & F. Camilo. 573, L41 (2002)
- CAMPANA, S. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
 - An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence. S. Campana, L. Stella, F. Gastaldello, S. Mereghetti, M. Colpi, G. L. Israel, L. Burderi, T. Di Salvo, & R. N. Robba. 575, L15 (2002)
- CANTÓ, J. Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)
- High-Velocity Clouds as a Probe of the Global Structure of the Gaseous Galactic Halo. J. Espresate, J. Canto, & Jose Franco. 575, 194 (2002)
- CAON, N. A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa. 573, L9 (2002)
- CAPETTI, ALESSANDRO. Jet-Triggered Type Ia Supernovae in Radio Galaxies? Alessandro Capetti. 574, L25 (2002)

- CAPPELLARO, E. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- CAPPI, MASSIMO. NGC 4151: An Intrinsically Average Seyfert 1. Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)
- CAPUTO, F. On the Distance of Magellanic Clouds: First Overtone Cepheids. G. Bono, M. A. T. Groenewegen, M. Marconi, & F. Caputo. 574, L33 (2002)
- CARATTIO GARATTI, A. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- CARILLI, C. Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)
- CARILLI, C. L. Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944. C. L. Carilli, P. Cox, F. Bertoldi, K. M. Menten, A. Omont, S. G. Djorgovski, A. Petric, A. Beelen, K. G. Isaak, & R. G. McMahon. 575, 145 (2002)
- CARLBERG, R. G. Globular Clusters at High Redshift. R. G. Carlberg. 573, 60 (2002)
- CARRERA, R. Remnants of the Sagittarius Dwarf Spheroidal Galaxy around the Young Globular Cluster Palomar 12. D. Martínez-Delgado, R. Zinn, R. Carrera, & C. Gallart. 573, L19 (2002)
- CARTER-LEWIS, D. A. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- CASINI, R. Magnetic Fields in Prominences: Inversion Techniques for Spectropolarimetric Data of the He 1 D₃ Line. A. López Ariste & R. Casini. 575, 529 (2002)
- CASINI, ROBERTO. On the Atomic Polarization of the Ground Level of Na 1. Roberto Casini, Egidio Landi Degl'Innocenti, Marco Landolfi, & Javier Trujillo Bueno. 573, 864 (2002)
- CASTRO, SANDRA. Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)
- CAUSI, G. LI. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- CAVALIERE, A. Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)
- CAZAUX, S. Molecular Hydrogen Formation in the Interstellar Medium. S. Cazaux & A. G. G. M. Tielens. 575, L29 (2002)
- CELOTTI, A. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- CEPA, J. A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa. 573, L9 (2002)
- CHAE, JONGCHUL. Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
- Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
- CHAFFEE, FRED H. An FeLo BAL Binary Quasar. Michael D. Gregg, Robert H. Becker, Richard L. White, Gordon T. Richards, Fred H. Chaffee, & Xiaohui Fan. 573, L85 (2002)
- CHAFFEE, FREDERIC H. LBQS 0015+0239: A Binary Quasar with Small Angular Separation. Chris D. Impey, Cathy E. Petry, Craig B. Foltz, Paul C. Hewett, & Frederic H. Chaffee. 574, 623 (2002)
- CHAKRABARTY, DEEPTO. The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657-415. Deepto Chakrabarty, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)
- CHALLIS, PETER M. See GERARDY, CHRISTOPHER L., et al. Extraordinary Late-Time Infrared Emission of Type IIn Supernovae.
- CHANG, PHILIP. Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)
- CHAPMAN, S. C. Optically Faint Counterparts to the *Infrared Space Observatory* FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- CHARTAS, GEORGE. Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. *Masahiro*

- Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)
- CHATTERJEE, S. Bow Shocks from Neutron Stars: Scaling Laws and Hubble Space Telescope Observations of the Guitar Nebula. S. Chatterjee & J. M. Cordee. 575, 407 (2002)
- CHAVUSHYAN, V. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- CHELOUCHE, D. See TURNER, T. J., et al. Narrow Components within the Fe $K\alpha$ Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects.
- CHEN, C. The Massive Disk around OH 231.8+4.2. M. Jura, C. Chen, & P. Plavchan. 574, 936 (2002)
- CHEN, XUELEI. Kinetic Sunyaev-Zeldovich Effect from Halo Rotation. Asantha Cooray & Xuelei Chen. 573, 43 (2002)
- CHENG, C. Z. Energy of Force-free Magnetic Fields in Relation to Coronal Mass Ejections. G. S. Choe & C. Z. Cheng. 574, L179 (2002)
- CHEVALIER, ROGER A. Bullets in a Core-Collapse Supernova Remnant: The Vela Remnant. Chih-Yueh Wang & Roger A. Chevalier. 574, 155 (2002)
- CHIANG, E. I. A Collisional Family in the Classical Kuiper Belt. E. I. Chiang. 573, L65 (2002)
- CHIAPETTI, L. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- CHINCARINI, GUIDO. Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)
- CHIUEH, TZIHONG. Bias and Conditional Mass Function of Dark Halos Based on the Nonspherical Collapse Model. Lihwai Lin, Tzihong Chiueh, & Jounghun Lee. 574, 527 (2002)
- CHO, JUNGYEON. Magnetohydrodynamic Turbulence as a Foreground for Cosmic Microwave Background Studies. Jungyeon Cho & A. Lazarian. 575, L63 (2002)
- CHOE, G. S. Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
 - Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
 - Energy of Force-free Magnetic Fields in Relation to Coronal Mass Ejections.
 G. S. Choe & C. Z. Cheng. 574, L179 (2002)
- CHOI, MINHO. Modeling Line Profiles of Photostellar Collapse Observed with High Angular Resolution. Minho Choi. 575, 900 (2002)
- CHOUDHARY, DEBI PRASAD. On Magnetic Flux Imbalance in Solar Active Regions. Debi Prasad Choudhary, P. Venkatakrishnan, & Sanjay Gosain. 573, 851 (2002)
- CHOUDHURY, T. ROY. A Simple Analytical Model for the Abundance of Damped Lyα Absorbers. T. Roy Choudhury & T. Padmanabhan. 574, 59 (2002)
- CHRISTIAN, E. R. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- CHUNG, HYUN-SOO. See LEE, DAE-HEE, et al. *ORFEUS* Observations of the Foreground Gas toward HD 37903.
- CIARAVELLA, A. Elemental Abundances and Post–Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)
- CLARKE, C. J. The Orientation of Jets Relative to Dust Disks in Radio Galaxies. H. R. Schmitt, J. E. Pringle, C. J. Clarke, & A. L. Kinney. 575, 150 (2002)
- CLINE, T. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- COHEN, C. M. S. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- COHEN, JUDITH G. Losing Weight: A Keck Spectroscopic Survey of the Massive Cluster of Galaxies RX J1347-1145. Judith G. Cohen & Jean-Paul Kneib. 573, 524 (2002)
- COHEN, M. Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)
- COLAFRANCESCO, SEGIO. See DE PETRIS, MARCO, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.
- COLAFRANCESCO, SERGIO. Low-Energy X-Ray Emission from the Abell 2199 Cluster of Galaxies. Jelle S. Kaastra, Richard Lieu, Johan A. M. Bleeker, Rolf Mewe, & Sergio Colafrancesco. 574, L1 (2002)

- COLBERG, J. M. See EVRARD, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- COLE, ANDREW A. An Upper Limit to the Age of the Galactic Bar. Andrew A. Cole & Martin D. Weinberg. 574, L43 (2002)
- COLGAN, SEAN W. J. Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)
- COLGATE, S. A. Magnetorotational Instability in Liquid Metal Couette Flow. K. Noguchi, V. I. Pariev, S. A. Colgate, H. F. Beckley, & J. Nordhaus. 575, 1151 (2002)
- COLINA, LUIS. INTEGRAL Spectroscopy of IRAS 15206+3342: Gas and Starbursts in an Advanced Merger. Santiago Arribas & Luis Colina. 573, 576 (2002)
- COLPI, M. See CAMPANA, S., et al. An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence.
- COMASTRI, A. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- CONCONI, PAOLO. Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)
- CONSELICE, CHRISTOPHER J. The Formation of Low-Mass Cluster Galaxies and the Universal Initial Galaxy Mass Function. Christopher J. Conselice. 573, L5 (2002)
- CONSORTIUM, THE VIRGO. See EVRARD, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- COOK, JOHN W. Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- COOK, K. H. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries
- A Proper-Motion Survey for White Dwarfs with the Wide Field Planetary Camera 2. C. A. Nelson, K. H. Cook, T. S. Axelrod, J. R. Mould, & C. Alcock. 573, 644 (2002)
- COOK, KEM H. K-Band Red Clump Distance to the Large Magellanic Cloud.

 David R. Alves, Marina Rejkuba, Dante Minniti, & Kem H. Cook. 573,
 L51 (2002)
- COORAY, ASANTHA. Kinetic Sunyaev-Zeldovich Effect from Halo Rotation. Asantha Cooray & Xuelei Chen. 573, 43 (2002)
 - Second-Order Corrections to Weak Lensing by Large-Scale Structure.

 Asantha Cooray & Wayne Hu. 574, 19 (2002)
- CORBARD, THIERRY. Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)
- CORBEL, S. Near-Infrared Synchrotron Emission from the Compact Jet of GX 339-4. S. Corbel & R. P. Fender. 573, L35 (2002)
- CORCORAN, M. F. See MOFFAT, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- CORDEE, J. M. Bow Shocks from Neutron Stars: Scaling Laws and Hubble Space Telescope Observations of the Guitar Nebula. S. Chatterjee & J. M. Cordee: 575, 407 (2002)
- CORREIA, E. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- CORSINI, E. M. Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)
- COSTA, J. E. R. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- CÔTÉ, PATRICK. Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)
- COTERA, A. Spatially Resolved Observations of the Galactic Center Source IRS 21. A. Tanner, A. M. Ghez, M. Morris, E. E. Becklin, A. Cotera, M. Ressler, M. Werner, & P. Wizinowich. 575, 860 (2002)
- COUCHMAN, H. M. P. See EVRARD, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- COURBIN, F. Cosmic Alignment toward the Radio Einstein Ring PKS 1830–211? F. Courbin, G. Meylan, J. P. Kneib, & C. Lidman. 575, 95 (2002)

- COWAN, JOHN J. A Search for Radio Emission from Supernovae with Ages from about 1 Week to More than 80 Years. Christopher R. Eck, John J. Cowan, & David Branch. 573, 306 (2002)
 - A Simple Model for r-Process Scatter and Halo Evolution. Brian D. Fields, James W. Truran, & John J. Cowan. 575, 845 (2002)
- Cox, P. High-Resolution CO and H₂ Molecular Line Imaging of a Cometary Globule in the Helix Nebula. P. J. Huggins, T. Forveille, R. Bachiller, P. Cox, N. Ageorges, & J. R. Walsh. 573, L55 (2002)
 - See CARILLI, C. L., et al. Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944.
- CREECH-EAKMAN, MICHELLE J. Long-Baseline Interferometric Observations of Cepheids. Benjamin F. Lane, Michelle J. Creech-Eakman, & Tyler E. Nordgren. 573, 330 (2002)
- CRENSHAW, D. MICHAEL. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.
- Cui, W. See Krennrich, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- CUMMINGS, A. C. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- CUNHA, K. Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)
- CURDT, W. Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- CURRAN, PETER. See CALLANAN, PAUL J., et al. The Peculiar Infrared Counterpart of GX 17+2.
- Dalal., Neal. Implications of Neutron Decoupling in Short Gamma-Ray Bursts. *Jason Pruet & Neal Dalal.* 573, 770 (2002)
- D'ALBA, LIVIA. See DE PETRIS, MARCO, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.
- DALE, D. A. Optically Faint Counterparts to the Infrared Space Observatory FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- D'ALESSIO, F. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- DAMMASCH, I. E. Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- Danks, A. C. See Tripp, T. M., et al. The Heavy-Element Enrichment of Ly α Clouds in the Virgo Supercluster.
- DANNERBAUER, H. Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)
- D'ANTONA, FRANCESCA. PSR J1740-5340: Accretion Inhibited by Radio Ejection in a Binary Millisecond Pulsar in the Globular Cluster NGC 6397. Luciano Burderi, Francesca D'Antona, & Marta Burgay. 574, 325 (2002)
- DANZIGER, I. J. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- DAS, B. P. Accurate Calculations of Interstellar Lines of Mg⁺ Using the Coupled Cluster Approach. Sonjoy Majumder, Holger Merlitz, Geetha Gopakumar, B. P. Das, Uttam Sinha Mahapatra, & Debashis Mukherjee. 574, 513 (2002)
- Davé, R. See TRIPP, T. M., et al. The Heavy-Element Enrichment of $Ly\alpha$ Clouds in the Virgo Supercluster.
- DAVIS, CHRISTOPHER J. Molecular Hydrogen Outflows in W51. Klaus W. Hodapp & Christopher J. Davis. 575, 291 (2002)
- DE LA CALLE PEREZ, I. See Krennrich, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- Delaney, M. Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)
- DE LA REZA, R. The Origin of the β Pictoris Moving Group. V. G. Ortega, R. de la Reza, E. Jilinski, & B. Bazzanella. 575, L75 (2002)
- DELUCA, E. The Timing of Flares Associated with the Two Dynamical Types of Solar Coronal Mass Ejections. M. Zhang, L. Golub, E. DeLuca, & J. Burkepile. 574, L97 (2002)

- DE LUCENA, A. M. P. Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)
- DEL ZANNA, G. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- DE MARCO, ORSOLA. Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)
- DÉMOULIN, P. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- DE PAZ, A. GIL. ¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)
- DE PETRIS, MARCO. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies. Marco De Petris, Livia D'Alba, Luca Lamagna, Francesco Melchiorri, Angiola Orlando, Emilia Palladino, Yoel Rephaeli, Segio Colafrancesco, Ernst Kreysa, & Monique Signore. 574, L119 (2002)
- DERE, K. P. A Comparison between Coronal Emission Lines from an Isothermal Spectrum Observed with the Coronal Diagnostic Spectrometer and CHIANTI Emissivities. E. Landi, U. Feldman, & K. P. Dere. 574, 495 (2002)
- DERMER, CHARLES D. Neutrino, Neutron, and Cosmic-Ray Production in the External Shock Model of Gamma-Ray Bursts. Charles D. Dermer. 574, 65 (2002)
- Transformation Properties of External Radiation Fields, Energy-Loss Rates and Scattered Spectra, and a Model for Blazar Variability. *Charles D. Dermer & Reinhard Schlickeiser.* 575, 667 (2002)
- DE SÉRÉVILLE, NICOLAS. Directionality of Solar Flare–accelerated Protons and α-Particles from γ-Ray Line Measurements. Gerald H. Share, Ronald J. Murphy, Jürgen Kiener, & Nicolas de Séréville. 573, 464 (2002)
- DEUTSCH, ERIC. See CALLANAN, PAUL J., et al. The Peculiar Infrared Counterpart of GX 17+2.
- DE VICENTE, P. On the Heating Source of the Orion KL Hot Core. P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco. 574, L163 (2002)
- DEVORE, C. R. Coronal Magnetic Field Relaxation by Null-Point Reconnection. S. K. Antiochos, J. T. Karpen, & C. R. DeVore. 575, 578 (2002)
- Di Carlo, E. Optical and Infrared Observations of the Supernova SN 1999el. E. Di Carlo, F. Massi, G. Valentini, A. Di Paola, F. D'Alessio, E. Brocato, D. Guidubaldi, M. Dolci, F. Pedichini, R. Speziali, G. Li Causi, A. Carattio Garatti, E. Cappellaro, M. Turatto, A. A. Arkharov, Y. Gnedin, V. M. Larionov, S. Benetti, A. Pastorello, I. Aretxaga, V. Chavushyan, O. Vega, I. J. Danziger, & A. Tornambé, 573, 144 (2002)
- DIKPATI, MAUSUMI. Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)
- DINESCU, DANA I. Absolute Proper Motions to $B \sim 22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter. Dana I. Dinescu, Steven R. Majewski, Terrence M. Girard, René A. Méndez, Allan Sandage, Michael H. Siegel, William E. Kunkel, John P. Subasavage, & Jamie Ostheimer. 575, L67 (2002)
- DI PAOLA, A. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- DI SALVO, T. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
- See Campana, S., et al. An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence.
- DISTEFANO, C. Neutrino Flux Predictions for Known Galactic Microquasars. C. Distefano, D. Guetta, E. Waxman, & A. Levinson. 575, 378 (2002)
- DIXON, W. VAN DYKE. See LEE, DAE-HEE, et al. ORFEUS Observations of the Foreground Gas toward HD 37903.
- DJORGOVSKI, S. G. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)
- See CARILLI, C. L., et al. Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944.

- DMITRUK, P. Coronal Heating Distribution Due to Low-Frequency, Wavedriven Turbulence. P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)
- DOLCI, M. See Di CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- DONAHUE, MEGAN. Chandra Observations of Unresolved X-Ray Sources around Two Clusters of Galaxies. Sandor M. Molnar, John P. Hughes, Megan Donahue, & Marshall Joy. 573, L91 (2002)
- D'ONGHIA, ELENA. Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)
- DORON, R. The Effect of High-lying Levels on Atomic Levels Relevant to Spectroscopic Analysis of Solar Extreme-Ultraviolet Spectra. R. Doron, G. A. Doschek, U. Feldman, A. K. Bhatia, & A. Bar-Shalom. 574, 504
- DORON, RAMI. The X-Ray Spectrum of Fe16+ Revisited with a Multi-Ion Model. Rami Doron & Ehud Behar. 574, 518 (2002)
- DOSCHEK, G. A. The Effect of High-lying Levels on Atomic Levels Relevant to Spectroscopic Analysis of Solar Extreme-Ultraviolet Spectra. R. Doron, G. A. Doschek, U. Feldman, A. K. Bhatia, & A. Bar-Shalom. 574, 504 (2002)
- DRAKE, A. J. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing
- DRAKE, JEREMY. See NICASTRO, FABRIZIO, et al. Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155-304: The Local Filament?
- DRECHSEL, HORST. Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)
- DRESSLER, ALAN. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- DUCHÊNE, G. NICMOS Images of the GG Tau Circumbinary Disk.
- C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002) DUFOUR, P. Is There Evidence for Rotation or Horizontal Motions in Hot DB White Dwarfs? P. Dufour, F. Wesemael, & P. Bergeron. 575, 1025 (2002)
- DUPKE, RENATO A. Prospects for Detection of Intracluster Gas Bulk Velocities through the Sunyaev-Zeldovich Effect. Renato A. Dupke & Joel N. Bregman. 575, 634 (2002)
- DUVALL, T. L., JR. A New Component of Solar Dynamics: North-South Diverging Flows Migrating toward the Equator with an 11 Year Period. J. G. Beck, L. Gizon, & T. L. Duvall, Jr. 575, L47 (2002)
- DWEK, ELI. The Cosmic Radio and Infrared Backgrounds Connection. Eli Dwek & Michael K. Barker. 575, 7 (2002)
- DWYER, J. R. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in 3He-rich Solar Flares.
- ECK, CHRISTOPHER R. A Search for Radio Emission from Supernovae with Ages from about 1 Week to More than 80 Years. Christopher R. Eck, John J. Cowan, & David Branch. 573, 306 (2002)
- EDELSON, R. Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)
- EFF-DARWICH, A. Inversion of the Internal Solar Rotation Rate. Darwich, S. G. Korzennik, & S. J. Jimenez-Reyes. 573, 857
- EFROIMSKY, MICHAEL. Mechanical Alignment of Suprathermal Paramagnetic Cosmic-Dust Granules: The Cross Section Mechanism. Efroimsky. 575, 886 (2002)
- EGGLETON, PETER P. The Evolution of Cool Algols. Peter P. Eggleton & Ludmila Kiseleva-Eggleton. 575, 461 (2002)
- Envelope Ejection: An Alternative Evolutionary Process for Some Early Case B Binaries. Peter P. Eggleton. 575, 1037 (2002)
- EHLE, M. Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)
- EISNER, J. A. Detecting Outer Planets in Edge-on Orbits: Combining Radial Velocity and Astrometric Techniques. J. A. Eisner & S. R. Kulkarni. 574, 426 (2002)
- ELLIS, RICHARD S. The Dark Matter Profile of the Lensing Cluster MS 2137-23: A Test of the Cold Dark Matter Paradigm. David J. Sand, Tommaso Treu, & Richard S. Ellis. 574, L129 (2002)
- ELVIS, MARTIN. See NICASTRO, FABRIZIO, et al. Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155-304: The Local Filament?

- ENDO, TAKAO. Broadening of Nearly Neutral Iron Emission Line of GX 301-2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)
- ENGLMAIER, PETER. Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- ERACLEOUS, MICHAEL. X-Ray Spectra of Intermediate-Luminosity, Radio-loud Quasars. Christina A. Hasenkopf, Rita M. Sambruna, & Michael Eracleous. 575, 127 (2002)
- ERICKSON, EDWIN F. Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95
- ESPRESATE, J. High-Velocity Clouds as a Probe of the Global Structure of the Gaseous Galactic Halo. J. Espresate, J. Canto, & Jose Franco. 575, 194 (2002)
- ESTALELLA, ROBERT. IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)
- Evans, N. W. Lensing Property of Cored Galaxy Models. N. W. Evans & C. Hunter. 575, 68 (2002)
- EVANS, NEAL J., II. Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)
- EVRARD, A. E. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations. A. E. Evrard, T. J. MacFarland, H. M. P. Couchman, J. M. Colberg, N. Yoshida, S. D. M. White, A. Jenkins, C. S. Frenk, F. R. Pearce, J. A. Peacock, & P. A. Thomas (The Virgo Consortium). 573, 7 (2002)
- FABER, S. M. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- FAHLMAN, GREG G. See HANSEN, BRAD M. S., et al. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.
- FAHLMAN, GREGORY G. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
- FALCKE, H. H I Absorption in the Gigamaser Galaxy TXS 2226-184 and the Relation between H 1 Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
- FALCO, E. See MOTTA, V., et al. Direction of the 2175 A Extinction Feature at z = 0.83.
- FALCO, EMILIO E. PKS 1830-211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)
- FALL, S. M. Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)
- FAN, XIAOHUI. An FeLo BAL Binary Quasar. Michael D. Gregg, Robert H. Becker, Richard L. White, Gordon T. Richards, Fred H. Chaffee, & Xiaohui Fan. 573, L85 (2002)
- FANG, LI-ZHI. Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priva Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)
- FASSETT, CALEB I. Star Formation Associated with the X-Ray Jet in Centaurus A. John A. Graham & Caleb I. Fassett. 575, 712 (2002)
- FECHTGRUBER, HELMUT. The Extinction and Metallicity of Galactic H II Regions from ISO-SWS Observations of Mid-Infrared Fine Structure Lines: Erratum (ApJ, 566, 880 [2002]). Uriel Giveon, Amiel Sternberg, Dieter Lutz, Helmut Fechtgruber, & A. W. A. Pauldrach. 575, 585 (2002) (Orig. paper in 566, 880 (2002))
- FEDERMAN, S. R. Ultraviolet Detection of Interstellar 12C17O and the CO Isotopomeric Rations toward X Persei. Yaron Sheffer, David L. Lambert, & S. R. Federman. 574, L171 (2002)
 - See LEE, DAE-HEE, et al. ORFEUS Observations of the Foreground Gas toward HD 37903.
- FEGAN, D. J. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- FEIGELSON, ERIC D. X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A.

- Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
- FELDMAN, PAUL D. Rocket Observations of Far-Ultraviolet Dust Scattering in NGC 2023. Eric B. Burgh, Stephan R. McCandliss, & Paul D. Feldman. 575, 240 (2002)
- FELDMAN, U. A Comparison between Coronal Emission Lines from an Isothermal Spectrum Observed with the Coronal Diagnostic Spectrometer and CHIANTI Emissivities. E. Landi, U. Feldman, & K. P. Dere. 574, 495 (2002)
 - The Effect of High-lying Levels on Atomic Levels Relevant to Spectroscopic Analysis of Solar Extreme-Ultraviolet Spectra. R. Doron, G. A. Doschek, U. Feldman, A. K. Bhatia, & A. Bar-Shalom. 574, 504 (2002)
- FELDMEIER, JOHN J. Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding, 575, 779 (2002)
- FENDER, R. P. Near-Infrared Synchrotron Emission from the Compact Jet of GX 339-4. S. Corbel & R. P. Fender. 573, L35 (2002)
- FENDER, ROB P. See CALLANAN, PAUL J., et al. The Peculiar Infrared Counterpart of GX 17+2.
- FENG, LONG-LONG. Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang, 574, 575 (2002)
- FERRARA, ANDREA. Early Enrichment of the Intergalactic Medium and Its Feedback on Galaxy Formation. Evan Scannapieco, Andrea Ferrara, & Piero Madau. 574, 590 (2002)
- FERRARO, F. R. Discovery of an Accreted Stellar System within the Globular Cluster ω Centauri. F. R. Ferraro, M. Bellazzini, & E. Pancino. 573, L95 (2002)
- Fesen, Robert A. See Gerardy, Christopher L., et al. Extraordinary Late-Time Infrared Emission of Type IIn Supernovae.
- FIELDS, BRIAN D. The Guaranteed Gamma-Ray Background. Vasiliki Pavliduo & Brian D. Fields. 575, L5 (2002)
- A Simple Model for r-Process Scatter and Halo Evolution. Brian D. Fields, James W. Truran, & John J. Cowan. 575, 845 (2002)
- FIGOSKI, LAURA. Gas-Phase Iron Abundances and Depletions in Translucent Interstellar Lines of Sight from FUSE Observations of Fe II Lines. Theodore P. Snow, Brian L. Rachford, & Laura Figoski. 573, 662 (2002)
- FILIPPENKO, ALEXEI V. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
 - The Peculiar Infrared Counterpart of GX 17+2. Paul J. Callanan, Peter Curran, Alexei V. Filippenko, Michael R. Garcia, Bruce Margon, Eric Deutsch, Scott Anderson, Lee Homer, & Rob P. Fender. 574, L143 (2002)
- FINESCHI, S. Elemental Abundances and Post–Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)
- FINLEY, J. P. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- FINOGUENOV, A. Chandra Observation of Low-Mass X-Ray Binaries in the Elliptical Galaxy M84. A. Finoguenov & C. Jones. 574, 754 (2002)
- FIORE, F. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
- FIGRE, FABRIZIO. See NICASTRO, FABRIZIO, et al. *Chandra* Discovery of a Tree in the X-Ray Forest toward PKS 2155—304: The Local Filament?
- FIRMANI, CLAUDIO. Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)
- FITZPATRICK, EDWARD L. Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- FLETCHER, L. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- FOLTZ, CRAIG B. LBQS 0015+0239: A Binary Quasar with Small Angular Separation. Chris D. Impey, Cathy E. Petry, Craig B. Foltz, Paul C. Hewett, & Frederic H. Chaffee. 574, 623 (2002)

- FONTANA, A. Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)
- FORVEILLE, T. High-Resolution CO and H₂ Molecular Line Imaging of a Cometary Globule in the Helix Nebula. P. J. Huggins, T. Forveille, R. Bachiller, P. Cox, N. Ageorges, & J. R. Walsh. 573, L55 (2002)
- FOSSATI, G. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- FOX, D. W. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
 - Discovery of a Possible Anomolous X-Ray Pulsar in the Small Magellanic Cloud. R. C. Lamb, D. W. Fox, D. J. Macomb, & T. A. Prince. 574, L29 (2002)
- Fox, DAVID C. The Distance to Clusters: Correcting for Asphericity. David C. Fox & Ue-Li Pen. 574, 38 (2002)
- FOX, DEREK W. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions.
- FRAGOS, TASSOS. Statistical Properties of the Energy Release in Emerging and Evolving Active Regions. Loukas Vlahos, Tassos Fragos, Heinz Isliker, & Manolis Georgoulis. 575, L87 (2002)
- FRAIL, D. A. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- FRANCO, JOSE. High-Velocity Clouds as a Probe of the Global Structure of the Gaseous Galactic Halo. J. Espresate, J. Canto, & Jose Franco. 575, 194 (2002)
- FRANK, Z. Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photospheric/Chromospheric Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- FREEMAN, K. C. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- FREEMAN, KENNETH C. Extended H I Spiral Structure and the Figure Rotation of Triaxial Dark Halos. Kenji Bekki & Kenneth C. Freeman. 574, L21 (2002)
- Frenk, C. S. See Evrard, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- The Luminosity Functions and Stellar Masses of Galactic Disks and Speroids. A. J. Benson, C. S. Frenk, & R. M. Sharples. 574, 104 (2002)
- FRIEMAN, JOSHUA. Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L111 (2002)
- FRISCH, PRISCILLA C. The Velocity Distribution of the Nearest Interstellar Gas. Priscilla C. Frisch, Lauren Grodnicki, & Daniel E. Welty. 574, 834 (2002)
- FRUSCIONE, ANTONELLA. See NICASTRO, FABRIZIO, et al. *Chandra* Discovery of a Tree in the X-Ray Forest toward PKS 2155–304: The Local Filament?
- FRYER, CHRIS L. Modeling Core-Collapse Supernovae in Three Dimensions. Chris L. Fryer & Michael S. Warren. 574, L65 (2002)
- Cosmological Aspects of Gamma-Ray Bursts: Luminosity Evolution and an Estimate of the Star Formation Rate at High Redshifts. Nicole M. Lloyd-Ronning, Chris L. Fryer, & Enrico Ramirez-Ruiz. 574, 554 (2002)
- FUENTE, A. Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)
- FUJITA, YUTAKA. Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)
- FUKUI, YASUO. A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)
- FULLER, G. A. The Evolution of the Circumstellar Environment of Embedded Young Stars from Observations of Rare Species of Carbon Monoxide. G. A. Fuller & E. F. Ladd. 573, 699 (2002)
- FYNBO, J. U. Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)
- GABEL, JACK R. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy.

- GÄNSICKE, BORIS T. Hubble Space Telescope Spectroscopy of the Dwarf Nova RX Andromedae during Outbust Rise and Decline. Jeremy F. Sepinsky, Edward M. Sion, Paula Szkody, & Boris T. Gänsicke. 574, 937 (2002)
 - Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)
- Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. Gänsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)
- GAENSLER, BRYAN M. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions.
- GAFFNEY, JAMES A., III. X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- GAFFORD, APRIL D. New Tests of Magnetospheric Accretion in T Tauri Stars. Christopher M. Johns-Krull & April D. Gafford. 573, 685 (2002)
- GAIDOS, J. A. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- GALAMA, T. J. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- GALLAGHER, P. T. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- GALLAGHER, PETER T. Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
- GALLART, C. Remnants of the Sagittarius Dwarf Spheroidal Galaxy around the Young Globular Cluster Palomar 12. D. Martínez-Delgado, R. Zinn, R. Carrera, & C. Gallart. 573, L19 (2002)
- GALLEGO, J. ¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)
- GALLIMORE, J. F. H i Absorption in the Gigamaser Galaxy TXS 2226–184 and the Relation between H i Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
- GAMMIE, CHARLES F. Numerical Models of Viscous Accretion Flows near Black Holes. *Jonathan C. McKinney & Charles F. Gammie.* 573, 728 (2007)
- GAN, W. Q. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- GÄNSICKE, BORIS T. Hubble Space Telescope Spectra of GW Librae: A Hot Pulsating White Dwarf in a Cataclysmic Variable. Paula Szkody, Boris T. Gänsicke, Steve B. Howell, & Edward M. Sion. 575, L79 (2002)
- GARCIA, MICHAEL R. See CALLANAN, PAUL J., et al. The Peculiar Infrared Counterpart of GX 17+2.
- GARCÍA-BURILLO, S. Discovery of High-Latitude CO in an H I Supershell in NGC 5775. S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)
- Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)
- GARCÍA-LORENZO, B. See MOTTA, V., et al. Direction of the 2175 $^{\circ}$ A Extinction Feature at z=0.83.
- GARDNER, L. D. Elemental Abundances and Post–Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)
- GARMIRE, GORDON. X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III. Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- GARMIRE, GORDON P. See MICHAEL, ELI, et al. The X-Ray Spectrum of Supernova Remnant 1987A.
- GARNAVICH, PETER M. See GERARDY, CHRISTOPHER L., et al. Extraordinary Late-Time Infrared Emission of Type IIn Supernovae.
- GARY, D. E. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- GASTALDELLO, F. See CAMPANA, S., et al. An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence.

- GAUDI, B. SCOTT. Gravitational Microlensing near Caustics. 1. Folds. B. Scott Gaudi & A. O. Petters. 574, 970 (2002)
- GEBHARDT, KARL. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- GENNARO, G. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
- GENZEL, R. Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)
- GEORGE, I. M. See TURNER, T. J., et al. Narrow Components within the Fe $K\alpha$ Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects.
- GEORGE, IAN M. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.
- GEORGOULIS, MANOLIS. Statistical Properties of the Energy Release in Emerging and Evolving Active Regions. Loukas Vlahos, Tassos Fragos, Heinz Isliker, & Manolis Georgoulis. 575, L87 (2002)
- GEORGOULIS, MANOLIS K. Statistics, Morphology, and Energetics of Ellerman Bombs. Manolis K. Georgoulis, David M. Rust, Pietro N. Bernasconi, & Brigitte Schmieder. 575, 506 (2002)
- GERARDY, CHRISTOPHER L. Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christopher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, & J. Craig Wheeler. 575, 1007 (2002)
- GETMAN, KONSTANTIN V. Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman. Eric D. Feigelson. Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
- GHANBARI, JAMSHID. Cooling Flows of Self-gravitating. Rotating, Viscous Systems. Mohsen Shadmehri & Jamshid Ghanbari. 574, 198 (2002)
- GHEZ, A. M. Spatially Resolved Observations of the Galactic Center Source IRS 21. A. Tanner, A. M. Ghez, M. Morris, E. E. Becklin, A. Cotera, M. Ressler, M. Werner, & P. Wizinowich. 575, 860 (2002)
- NICMOS Images of the GG Tau Circumbinary Disk. C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002)
- GHISELLINI, G. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- GHOSH, KAJAL K. Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)
- GIACALONE, J. Particle Acceleration in Solar Wind Comression Regions. J. Giacalone, J. R. Jokipii, & J. Kóta. 573, 845 (2002)
- GIALLONGO, E. Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)
- GIANNINI, TERESA. Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources. Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)
- GIBBS, K. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- GIBSON, BRAD K. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
- See Hansen, Brad M. S., et al. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.
- GIBSON, S. E. The Structure and Evolution of a Sigmoidal Active Region. S. E. Gibson, L. Fletcher, G. Del Zanna, C. D. Pike, H. E. Mason, C. H. Mandrini, P. Démoulin, H. Gilbert, J. Burkepile, T. Holzer, D. Alexander, Y. Liu, N. Nitta, J. Qiu, B. Schmieder, & B. J. Thompson. 574, 1021 (2002)
- Gies, Douglas R. Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)
- Tomographic Separation of Composite Spectra. IX. The Massive Close Binary HD 115071. Laura R. Penny, Douglas R. Gies, John H. Wise, D. J. Stickland, & C. Lloyd. 575, 1050 (2002)
- GILBERT, H. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- GILLANDERS, G. H. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- GILMAN, PETER A. Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)

- GILMORE, GERARD. Deciphering the Last Major Invasion of the Milky Way. Gerard Gilmore, Rosemary F.G. Wyse, & John E. Norris. 574, L39 (2002)
- GIMÉNEZ DE CASTRO, C. G. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- GIRARD, TERRENCE M. See DINESCU, DANA I., et al. Absolute Proper Motions to $B\sim 22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter.
- GIRART, JOSÉ M. IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)
- GIVEON, URIEL. The Extinction and Metallicity of Galactic H II Regions from ISO-SWS Observations of Mid-Infrared Fine Structure Lines: Erratum (ApJ, 566, 880 [2002]). Uriel Giveon, Amiel Sternberg, Dieter Lutz, Helmut Fechtgruber, & A. W. A. Pauldrach. 575, 585 (2002) (Orig. paper in 566, 880 (2002))
- GIZIS, JOHN E. Brown Dwarfs and the TW Hydrae Association. John E. Gizis. 575, 484 (2002)
- GIZON, L. A New Component of Solar Dynamics: North-South Diverging Flows Migrating toward the Equator with an 11 Year Period. J. G. Beck, L. Gizon, & T. L. Duvall, Jr. 575, L47 (2002)
- GLASS, IAN S. Near-Infrared and CO (J = 1–0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574. 187 (2002)
- GNEDIN, NICKOLAY Y. The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 33 (2002)
- The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)
- GNEDIN, Y. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- GOETZ, K. Elctrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)
- GOLD, R. E. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- GOLENETSKII, S. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy
- GOLUB, L. The Timing of Flares Associated with the Two Dynamical Types of Solar Coronal Mass Ejections. M. Zhang, L. Golub, E. DeLuca, & J. Burkepile. 574, L97 (2002)
- GÓMEZ, DANIEL O. Study of Stochastic Fluctuations in a Shell Dynamo. Pablo D. Mininni & Daniel O. Gómez. 573, 454 (2002)
- GOODE, PHILIP R. Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
- Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
- GOODMAN, ALYSSA A. The Great PV Cephei Outflow: A Case Study in Outflow-Cloud Interaction. Héctor G. Arce & Alyssa A. Goodman. 575, 911 (2002)
 - Bow Shocks, Wiggling Jets, and Wide-Angle Winds: A High-Resolution Study of the Entrainment Mechanism of the PV Cephei Molecular (CO) Outflow. Héctor G. Arce & Alyssa A. Goodman. 575, 928 (2002)
- GOODSON, ANTHONY P. Simulation-based Investigation of a Model for the Interaction between Stellar Magnetospheres and Circumstellar Accretion Disks. Sean Matt, Anthony P. Goodson, Robert M. Winglee, & Karl-Heinz Bohm. 574, 232 (2002)
- GOPAKUMAR, GEETHA. Accurate Calculations of Interstellar Lines of Mg⁺ Using the Coupled Cluster Approach. Sonjoy Majumder, Holger Merlitz. Geetha Gopakumar, B. P. Das, Uttam Sinha Mahapatra, & Debashis Mukherjee, 574, 513 (2002)
- GOPALSWAMY, N. Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- GORTI, U. Photoevaporation of Clumps in Photodissociation Regions. U. Gorti & D. Hollenbach. 573, 215 (2002)

- GOSAIN, SANJAY. On Magnetic Flux Imbalance in Solar Active Regions. Debi Prasad Choudhary, P. Venkatakrishnan, & Sanjay Gosain. 573, 851 (2002)
- Goss, W. M. Decapitating the Duck: The (Non)Association of PSR B1757-24 and Supernova Remnant G5.4-1.2. S. E. Thorsett, W. F. Brisken, & W. M. Goss. 573, L111 (2002)
- VLA Observations of H 1 in the Helix Nebula (NGC 7293). Luis F. Rodríguez, W. M. Goss, & Robert Williams. 574, 179 (2002)
- Very Large Array Detection of Radio Recombination Lines from the Radio Nucleus of NGC 253: Inoization by a Weak Active Galactic Nucleus, an Obscured Super Star Cluster, or a Compact Supernova Remnant? Niruj R. Mohan, K. R. Anantharamaiah, & W. M. Goss. 574, 701 (2002)
- Very Large Array Observations of 6 Centimeter. H₂CO in the Direction of Cassiopeia A. E. M. Reynoso & W. M. Goss. 575, 871 (2002)
- GOTO, MIWA. Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)
- GOTTHELF, E. V. The Next Geminga: Deep Multiwavelength Observations of a Neutron Star Identified with 3EG J1835+5918. J. P. Halpern, E. V. Gotthelf, N. Mirabal, & F. Camilo. 573, L41 (2002)
- Is the EGRET Source 3EG J1621+8203 the Radio Galaxy NGC 6251? R. Mukherjee, J. Halpern, N. Mirabal, & E. V. Gotthelf. 574, 693 (2002)
- GOULD, ANDREW. Astrometry Survey Missions beyond the Magnitude Limit. Samir Salim, Andrew Gould, & Rob P. Olling. 573, 631 (2002)
- Classifying Luyten Stars Using an Optical-Infrared Reduced Proper-Motion Diagram. Samir Salim & Andrew Gould. 575, L83 (2002)
- GRAHAM, JOHN A. Star Formation Associated with the X-Ray Jet in Centaurus A. John A. Graham & Caleb I. Fassett. 575, 712 (2002)
- GRANDI, P. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- GRANOT, JONATHAN. Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)
- GREBEL, E. K. Proper Motion in the Knotty, Biploar Jet in Henize 2-90.
 R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å, Nyman. 573, L123 (2002)
- GREEN, R. F. Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)
 - See TRIPP, T. M., et al. The Heavy-Element Enrichment of $Ly\alpha$ Clouds in the Virgo Supercluster.
- Green, Richard. See Tremaine, Scott, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- GREGG, MICHAEL D. An FeLo BAL Binary Quasar. Michael D. Gregg, Robert H. Becker, Richard L. White, Gordon T. Richards, Fred H. Chaffee, & Xiaohui Fan. 573, L85 (2002)
- Gregory, P. C. Bayesian Analysis of Radio Observations of the Be X-Ray Binary LS I +61°303. P. C. Gregory. 575, 427 (2002)
- GRIEST, K. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- GRIFFITHS, R. G. Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)
- GRILLMAIR, CARL. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- GRODNICKI, LAUREN. The Velocity Distribution of the Nearest Interstellar Gas. Priscilla C. Frisch, Lauren Grodnicki, & Daniel E. Welty. 574, 834 (2002)
- GROENEWEGEN, M. A. T. On the Distance of Magellanic Clouds: First Overtone Cepheids. G. Bono, M. A. T. Groenewegen, M. Marconi, & F. Caputo. 574, L33 (2002)
- GROSSO, MONICA. Rotational Velocities of B Stars. Helmut A. Abt, Hugo Levato, & Monica Grosso. 573, 359 (2002)
- GU, MING FENG. See KINKHABWALA, ALI, et al. XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068.
- GUAINAZZI, MATTEO. XMM-Newton Observations of the Neutron Star X-Ray Transient KS 1731–260 in Quiescence. Rudy Wijnands, Matteo Guainazzi, Michiel van der Klis, & Mariano Méndez. 573, L45 (2002)
- GUETTA, D. Neutrino Flux Predictions for Known Galactic Microquasars. C. Distefano, D. Guetta, E. Waxman, & A. Levinson. 575, 378 (2002)

- GUIDUBALDI, D. See Di CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- GUINAN, EDWARD F. Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- GULL, T. R. See TRIPP, T. M., et al. The Heavy-Element Enrichment of Ly α Clouds in the Virgo Supercluster.
- GULLIVER, AUSTIN F. The Variability of the Hg II λ3984 Line of the Mercury-Manganese Star α Andromedae. Saul J. Adelman, Austin F. Gulliver, Oleg P. Kochukhov, & Tanya A. Ryabchikova. 575, 449 (2002)
- GUNDERSEN, J. O. New Limits on the Polarized Anisotrophy of the Cosmic Microwave Background at Subdegree Angular Scales. M. M. Hedman, D. Barkats, J. O. Gundersen, J. J. McMahon, S. T. Staggs, & B. Winstein. 573, L73 (2002)
- GÜNTHER, E. Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Hα 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)
- GUTIÉRREZ, C. M. A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. *I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa.* 573, L9 (2002)
- HAARDT, F. Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)
- HALL, PATRICK B. The Redshift of a Lensing Galaxy in PMN J0134-0931.
 Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton,
 David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann.
 575, L51 (2002)
- HALL, T. A. See Krennrich, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- HALPERN, J. Is the EGRET Source 3EG J1621+8203 the Radio Galaxy NGC 6251? R. Mukherjee, J. Halpern, N. Mirabal, & E. V. Gotthelf. 574, 693 (2002)
- HALPERN, J. P. The Next Geminga: Deep Multiwavelength Observations of a Neutron Star Identified with 3EG J1835+5918. J. P. Halpern, E. V. Gotthelf, N. Mirabal, & F. Camilo. 573, L41 (2002)
- HAMANN, FREDERICK W. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.
- HAN, CHEONGHO. Effect of a Wide Binary Companion to the Lens on the Astrometric Behavior of Gravitational Microlensing Events. Jin H. An & Cheongho Han. 573, 351 (2002)
- HAN, WON-YONG. See LEE, DAE-HEE, et al. ORFEUS Observations of the Foreground Gas toward HD 37903.
- HANLON, L. Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)
- HANSEN, BRAD M. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
- HANSEN, BRAD M. S. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4. Brad M. S. Hansen, James Brewer, Greg G. Fahlman, Brad K. Gibson, Rodrigo Ibata, Marco Limongi, R. Michael Rich, Harvey B. Richer, Michael M. Shara, & Peter B. Stetson. 574, L155 (2002)
- HANSEN, STEEN H. First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Steen H. Hansen, Sergio Pastor, & Dmitry V. Semikoz. 573, L69 (2002)
- HARDING, PAUL. Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding. 575, 779 (2002)
- HARRISON, F. A. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- HARTMUT, SCHULTZ. Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)

- HASENKOPF, CHRISTINA A. X-Ray Spectra of Intermediate-Luminosity, Radio-loud Quasars. Christina A. Hasenkopf, Rita M. Sambruna, & Michael Eracleous. 575, 127 (2002)
- HASINGER, G. Discovery of an Ionized Fe K Edge in the z = 3.91 Broad Absorption Line Quasar APM 08279+5255 with XMM-Newton. G. Hasinger, N. Schartel, & S. Komossa. 573, L77 (2002)
- HASINGER, GÜNTHER. See MICHAEL, ELI, et al. The X-Ray Spectrum of Supernova Remnant 1987A.
- HAUSCHILDT, PETER H. Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)
- HAWLEY, JOHN F. The Dynamical Structure of Nonradiative Black Hole Accretion Flows. John F. Hawley & Steven A. Balbus. 573, 738 (2002)
 - On the Nature of Angular Momentum Transport in Nonradiative Accretion Flows. Steven A. Balbus & John F. Hawley. 573, 749 (2002)
- Where Is the Inner Edge of an Accretion Disk around a Black Hole? Julian H. Krolik & John F. Hawley. 573, 754 (2002)
- HAWLEY, S. L. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- HEAP, S. R. See TRIPP, T. M., et al. The Heavy-Element Enrichment of $Ly\alpha$ Clouds in the Virgo Supercluster.
- HECKMAN, T. M. Extreme X-Ray Iron Lines in Active Galactic Nuclei. N. A. Levenson, J. H. Krolik, P. T. Zycki, T. M. Heckman, K. A. Weaver, H. Awaki, & Y. Terashima. 573, L81 (2002)
- HECKMAN, TIMOTHY M. The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)
- HEDMAN, M. M. New Limits on the Polarized Anisotrophy of the Cosmic Microwave Background at Subdegree Angular Scales. M. M. Hedman, D. Barkats, J. O. Gundersen, J. J. McMahon, S. T. Staggs, & B. Winstein. 573, L73 (2002)
- HEINO, FALCKE. Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)
- HEINZ, SEBASTIAN. Hiding in Plain Sight: Chandra Observations of the Quiescent Neutron Star 4U 2129+47 in Eclipse. Michael A. Nowak, Sebastian Heinz, & M. C. Begelman. 573, 778 (2002)
- HEISE, J. Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8—2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)
- HELOU, G. Optically Faint Counterparts to the Infrared Space Observatory FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- HENKEL, C. H I Absorption in the Gigamaser Galaxy TXS 2226—184 and the Relation between H I Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
- HENNING, TH. Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Hα 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)
- HENRY, GREGORY W. X-Ray and Optical Variations in the Classical Be Star γ Cassiopeia: The Discovery of a Possible Magnetic Dynamo. Richard D. Robinson, Myron A. Smith, & Gregory W. Henry. 575, 435 (2002)
- HERBST, ERIC. The Synthesis of Benzene in the Proto-planetary Nebula CRL 618. Paul M. Woods, T. J. Millar, A. A. Zijlstra, & Eric Herbst. 574, L167 (2002)
- HERTZ, PAUL. Eclipse Timings of the Low-Mass X-Ray Binary EXO 0748–676. III. Orbital Period Jitter Observed with the Unconventional Stellar Aspect Experiment and the Rossi X-Ray Timing Explorer. Michael T. Wolff, Paul Hertz, Kent S. Wood, Paul S. Ray, & Reba M. Bandvopadhyay. 575, 384 (2002)
- HEWETT, PAUL. Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L.111 (2002)
- HEWETT, PAUL C. LBQS 0015+0239: A Binary Quasar with Small Angular Separation. Chris D. Impey, Cathy E. Petry, Craig B. Foltz, Paul C. Hewett, & Frederic H. Chaffee. 574, 623 (2002)

- HEYL, JEREMY S. Low-Mass X-Ray Binaries May Be Important Laser Interferometer Gravitational-Wave Observatory Sources After All. Jeremy S. Heyl. 574, L57 (2002)
- On the Lack of Type I X-Ray Bursts in Black Hole X-Ray Binaries: Evidence for the Event Horizon? *Ramesh Narayan & Jeremy S. Heyl.* 574, L139 (2002)
- HEYMANN, DIETER. New Prescriptions for Growing Interstellar Carbonaceous Cauliflowers. Dieter Heymann & Marie Pontier-Johnson. 574, L91 (2002)
- HILLAS, A. M. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- HILLENBRAND, LYNNE A. X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- HINES, DEAN C. Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)
- HIROTA, TOMOYA. The H¹³CN/HC¹⁵N Abundance Ratio in Dense Cores: Possible Source-to-Source Variation of Isotope Abundances? Masafumi Ikeda, Tomoya Hirota, & Satoshi Yamamoto. 575, 250 (2002)
- Ho, Luis C. See Tremaine, Scott, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- HO, PAUL T. P. IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)
- HOBBS, L. M. Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)
- HODAPP, KLAUS W. Molecular Hydrogen Outflows in W51. Klaus W. Hodapp & Christopher J. Davis. 575, 291 (2002)
- HÖFLICH, PETER. See GERARDY, CHRISTOPHER L., et al. Extraordinary Late-Time Infrared Emission of Type IIn Supernovae.
- HOLDER, J. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- HOLLENBACH, D. Photoevaporation of Clumps in Photodissociation Regions. U. Gorti & D. Hollenbach. 573, 215 (2002)
- HOLT, STEPHEN S. See MICHAEL, ELI, et al. The X-Ray Spectrum of Supernova Remnant 1987A.
- HOLZER, T. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- HOMER, LEE. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions.
 - See Callanan, Paul J., et al. The Peculiar Infrared Counterpart of GX 17+2.
- HONDA, SATOSHI. See TAKADA-HIDAI, MASAHIDE, et al. Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs.
- HORAN, D. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- HOWELL, STEVE B. Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)
- Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. Gänsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)
- Hubble Space Telescope Spectra of GW Librae: A Hot Pulsating White Dwarf in a Cataclysmic Variable. Paula Szkody, Boris T. Gänsicke, Steve B. Howell, & Edward M. Sion. 575, L79 (2002)
- HRIVNAK, BRUCE J. Subarcsecond Mid-Infrared Imaging of Two Post– Asymptotic Giant Branch 21 Micron Sources. Sun Kwok, Kevin Volk, & Bruce J. Hrivnak. 573, 720 (2002)
- Hu, Jing-Yao. A Metal-poor Compact H II Region with a Small, Isolated, and Dense Young Stellar Cluster. Jun-Jie Wang, Jian-Yan Wei, & Jing-Yao Hu. 573, 238 (2002)
- Hu, WAYNE. Second-Order Corrections to Weak Lensing by Large-Scale Structure. Asantha Cooray & Wayne Hu. 574, 19 (2002)
 - Mass Reconstruction with Cosmic Microwave Background Polarization. Wayne Hu & Takemi Okamoto. 574, 566 (2002)

- HUBENY, I. Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)
- HUDSON, H. S. Boundary Structures and Changes in Long-lived Coronal Holes. S. W. Kahler & H. S. Hudson. 574, 467 (2002)
 - See Kaufmann, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- HUGGINS, P. J. High-Resolution CO and H₂ Molecular Line Imaging of a Cometary Globule in the Helix Nebula. P. J. Huggins, T. Forveille, R. Bachiller, P. Cox, N. Ageorges, & J. R. Walsh. 573, L55 (2002)
- HUGHES, JOHN P. Chandra Observations of Unresolved X-Ray Sources around Two Clusters of Galaxies. Sandor M. Molnar, John P. Hughes, Megan Donahue, & Marshall Joy. 573, L91 (2002)
- Hul, Lam. Constraining the Rotation Rate of Transiting Extrasolar Planets by Oblateness Measurements. S. Seager & Lam Hui. 574, 1004 (2002)
- HULL, A. Elctrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)
- HUNTER, C. Lensing Property of Cored Galaxy Models. N. W. Evans & C. Hunter. 575, 68 (2002)
- HURLEY, K. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- HURWITZ, MARK. See LEE, DAE-HEE, et al. ORFEUS Observations of the Foreground Gas toward HD 37903.
- HUSSAIN, G. A. J. The Coronal Topology of the Rapidly Rotating K0 Dwarf AB Doradus. I. Using Surface Magnetic Field Maps to Model the Structure of the Stellar Corona. G. A. J. Hussain, A. A. van Ballegooijen, M. Jardine, & A. Collier Cameron. 575, 1078 (2002)
- HWANG, UNA. See MICHAEL, ELI, et al. The X-Ray Spectrum of Supernova Remnant 1987A.
- IARIA, R. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
- IBATA, RODRIGO. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
 - See Hansen, Brad M. S., et al. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.
- IBRAHIM, ALAA I. Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806—20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)
- IKEDA, MASAFUMI. The H¹³CN/HC¹⁵N Abundance Ratio in Dense Cores: Possible Source-to-Source Variation of Isotope Abundances? Masafumi Ikeda, Tomoya Hirota, & Satoshi Yamamoto. 575, 250 (2002)
- IMMLER, STEFAN. X-Ray Emission from the Type Ic Supernova 1994I Observed with Chandra. Stefan Immler, Andrew S. Wilson, & Yuichi Terashima. 573, L27 (2002)
- IMPEY, CHRIS D. LBQS 0015+0239: A Binary Quasar with Small Angular Separation. Chris D. Impey, Cathy E. Petry, Craig B. Foltz, Paul C. Hewett, & Frederic H. Chaffee. 574, 623 (2002)
- IMPEY, CHRISTOPHER D. PKS 1830—211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)
- INNES, D. E. Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- INOUE, HAJIME. Broadening of Nearly Neutral Iron Emission Line of GX 301-2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)
- INOUE, KAIKI TARO. Analytic Approach to the Cloud-in-Cloud Problem for Non-Gaussuian Density Fluctuations. Kaiki Taro Inoue & Masahiro Nagashima. 574, 9 (2002)
- INOUE, SUSUMU. Cosmic-Ray Production of ⁶Li by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation. *Takeru Ken Suzuki & Susumu Inoue*. 573, 168 (2002)
- IN'T ZAND, J. J. M. Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)

- Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8—2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)
- IRWIN, J. A. Discovery of High-Latitude CO in an H I Supershell in NGC 5775.
 S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)
- IRWIN, JUDITH A. Nobeyama Millimeter Array CO (J = 1–0) Observations of the Hα Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)
- ISAAK, K. G. See CARILLI, C. L., et al. Imaging Low-Order CO Emissions from the z=4.12 Quasi-Stellar Object PSS J2322+1944.
- ISHIDA, MANABU. Broadening of Nearly Neutral Iron Emission Line of GX 301-2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)
- ISLIKER, HEINZ. Statistical Properties of the Energy Release in Emerging and Evolving Active Regions. Loukas Vlahos, Tassos Fragos, Heinz Isliker, & Manolis Georgoulis. 575, L87 (2002)
- ISRAEL, G. L. BeppoSAX Observations of the Young Pulsar in the Kes 75 Supernova Remnant. S. Mereghetti, R. Bandiera, F. Bocchino, & G. L. Israel. 574, 873 (2002)
 - See CAMPANA, S., et al. An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence.
- IVISON, R. J. Optically Faint Counterparts to the Infrared Space Observatory FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- IYE, MASANORI. Chemodynamic Evolution of Globular Cluster Systems. Yoshihiko Saito & Masanori Iye. 573, 122 (2002)
- JAKOBSEN, P. Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)
- JAMKHEDKAR, PRIYA. Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)
- JARDINE, M. The Coronal Topology of the Rapidly Rotating K0 Dwarf AB Doradus. I. Using Surface Magnetic Field Maps to Model the Structure of the Stellar Corona. G. A. J. Hussain, A. A. van Ballegooijen, M. Jardine, & A. Collier Cameron. 575, 1078 (2002)
- JATENCO-PEREIRA, V. The Role of Damped Alfvén Waves in Magnetospheric Accretion Models of Young Stars. M. J. Vasconcelos, V. Jatenco-Pereira, & R. Opher. 574, 847 (2002)
- JENKINS, A. See EVRARD, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- JENKINS, E. B. See TRIPP, T. M., et al. The Heavy-Element Enrichment of $Ly\alpha$ Clouds in the Virgo Supercluster.
- JENKINS, JON M. The Impact of Solar-like Variability on the Detectability of Transiting Terrestrial Planets. Jon M. Jenkins. 575, 493 (2002)
- JHA, SAURABH. See GERARDY, CHRISTOPHER L., et al. Extraordinary Late-Time Infrared Emission of Type IIn Supernovae.
- JILINSKI, E. The Origin of the β Pictoris Moving Group. V. G. Ortega, R. de la Reza, E. Jilinski, & B. Bazzanella. 575, L75 (2002)
- JIMENEZ, RAUL. Constraining Cosmological Parameters Based on Relative Galaxy Ages. Raul Jimenez & Abraham Loeb. 573, 37 (2002)
- JIMENEZ-REYES, S. J. Inversion of the Internal Solar Rotation Rate.
 A Fif-Darwich S G Korzennik & S. I. Jimenez-Reves, 573, 857 (2002)
- A. Eff-Darwich, S. G. Korzennik, & S. J. Jimenez-Reyes. 573, 857 (2002)
 JING, Y. P. Triaxial Modeling of Halo Density Profiles with High-Resolution
 N-Body Simulations. Y. P. Jing & Yasushi Suto. 574, 538 (2002)
- JOGEE, SHARDHA. Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- JOHNS-KRULL, CHRISTOPHER M. New Tests of Magnetospheric Accretion in T Tauri Stars. Christopher M. Johns-Krull & April D. Gafford. 573, 685 (2002)
- JOKIPII, J. R. Particle Acceleration in Solar Wind Comression Regions. J. Giacalone, J. R. Jokipii, & J. Kóta. 573, 845 (2002)
- JONES, C. Chandra Observation of Low-Mass X-Ray Binaries in the Elliptical Galaxy M84. A. Finoguenov & C. Jones. 574, 754 (2002)

- JORDAN, M. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- JOSEPH, C. L. See TRIPP, T. M., et al. The Heavy-Element Enrichment of Ly α Clouds in the Virgo Supercluster.
- JOY, MARSHALL. Chandra Observations of Unresolved X-Ray Sources around Two Clusters of Galaxies. Sandor M. Molnar, John P. Hughes, Megan Donahue, & Marshall Joy. 573, L91 (2002)
- JUCKS, K. W. The Spectrum of Earthshine: A Pale Blue Dot Observed from the Ground. N. J. Woolf, P. S. Smith, W. A. Traub, & K. W. Jucks. 574, 430 (2002)
- JUETT, ADRIENNE M. The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657—415. Deepto Chakrabarry, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)
- JURA, M. The Massive Disk around OH 231.8+4.2. M. Jura, C. Chen, & P. Plavchan. 574, 936 (2002)
- KAARET, P. A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies. R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)
 - Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8—2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)
- KAASTRA, JELLE S. Low-Energy X-Ray Emission from the Abell 2199 Cluster of Galaxies. Jelle S. Kaastra, Richard Lieu, Johan A. M. Bleeker, Rolf Mewe, & Sergio Colafrancesco. 574, L1 (2002)
 - See KINKHABWALA, ALI, et al. XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068.
- KAHLER, S. W. Boundary Structures and Changes in Long-lived Coronal Holes. S. W. Kahler & H. S. Hudson. 574, 467 (2002)
- KAHN, STEVEN M. See KINKHABWALA, ALI, et al. XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068.
- KAISER, M. E. Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)
 - See Tripp, T. M., et al. The Heavy-Element Enrichment of Ly α Clouds in the Virgo Supercluster.
- KAISER, M. L. Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon⁻¹. J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner. 573, L59 (2002)
- KAISER, MARY ELIZABETH. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy.
- KALIRAI, JASONJOT S. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
- KAROVSKA, MARGARITA. Analysis of H₂ Emission from Mira B in Ultraviolet Spectra from the Hubble Space Telescope. Brian E. Wood, Margarita Karovska, & John C. Raymond. 575, 1057 (2002)
- KARPEN, J. T. Coronal Magnetic Field Relaxation by Null-Point Reconnection. S. K. Antiochos, J. T. Karpen, & C. R. DeVore. 575, 578 (2002)
- KASPI, SHAI. The Ionized Gas and Nuclear Environment in NGC 3783. 1. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy. Shai Kaspi, W. N. Brandt, Ian M. George, Hagai Netzer, D. Michael Crenshaw, Jack R. Gabel, Frederick W. Hamann, Mary Elizabeth Kaiser, Anuradha Koratkar, Steven B. Kraemer, Gerard A. Kriss, Smita Mathur, Richard F. Mushotzky, Kirpal Nandra, Bradley M. Peterson, Joseph C. Shields, T. J. Turner, & Wei Zheng, 574, 643 (2002)
- KASPI, VICTORIA M. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions.
- KAUFMANN, P. Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)
- Solar Submillimeter and Gamma-Ray Burst Emission. P. Kaufmann, J.-P. Raulin, A. M. Melo, E. Correia, J. E. R. Costa, C. G. Giménez de Castro, A. V. R. Silva, M. Yoshimori, H. S. Hudson, W. Q. Gan, D. E. Gary, P. T. Gallagher, H. Levato, A. Marun, & M. Rovira. 574, 1059 (2002)
- KAWAGUCHI, T. Two-Temperature Coronal Flow above a Thin Disk. B. F. Liu, S. Mineshige, F. Meyer, E. Meyer-Hofmeister, & T. Kawaguchi. 575, 117 (2002)

KAWAI, TOSHIHIDE. Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002)

KAWAKITA, HIDEYO. Unidentified Bands in Comet Ikeya-Zhang (C/2002 C1): The Correlation between Unidentified Bands and H₂⁺. Hideyo Kawakita

& Jun-ichi Watanabe. 574, L183 (2002)

KAWAMURA, AKIKO. A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)

KAWANOMOTO, SATOSHI. See TAKADA-HIDAI, MASAHIDE, et al. Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs.

KEETON, CHARLES R. Rethinking Lensing and Λ. Charles R. Keeton. 575, L1 (2002)

The Redshift of a Lensing Galaxy in PMN J0134-0931. Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton, David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann. 575, L51 (2002)

KELLER, S. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.

Kellogg, P. J. Elctrostatic Turbulence and Debve-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)

KEMPNER, JOSHUA C. Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)

KERTZMAN, M. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.

KIEDA, D. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.

KIENER, JÜRGEN. Directionality of Solar Flare-accelerated Protons and α -Particles from γ -Ray Line Measurements. Gerald H. Share, Ronald J. Murphy, Jürgen Kiener, & Nicolas de Séréville. 573, 464 (2002)

KILDEA, J. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.

KILGARD, R. E. A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies. R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)

KILKENNY, DAVID. Resolving the 47 Tucanae Distance Problem. Susan M. Percival, Maurizio Salaris, Francois van Wyk, & David Kilkenny. 573,

174 (2002)

KIM, KEE-TAE. Interaction between Ionized and Molecular Gas in the Active Star-forming Region W31. Kee-Tae Kim & Bon-Chul Koo. 575, 327

KINGHAM, K. A. Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)

KINKHABWALA, ALI. XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068. Ali Kinkhabwala, Masao Sako, Ehud Behar, Steven M. Kahn, Frits Paerels, Albert C. Brinkman, Jelle S. Kaastra, Ming Feng Gu, & Duane A. Liedahl. 575, 732 (2002)

KINNEY, A. L. The Orientation of Jets Relative to Dust Disks in Radio Galaxies. H. R. Schmitt, J. E. Pringle, C. J. Clarke, & A. L. Kinney. 575, 150 (2002)

KIRKMAN, DAVID. Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)

KIRKPATRICK, J. DAVY. Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)

KIRSHNER, ROBERT P. See GERARDY, CHRISTOPHER L., et al. Extraordinary

Late-Time Infrared Emission of Type IIn Supernovae.

KISELEVA-EGGLETON, LUDMILA. The Evolution of Cool Algols. Peter P. Eggleton & Ludmila Kiseleva-Eggleton. 575, 461 (2002)

KLEIN, R. Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Ha 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)

ALCDM-based Models for the Milky Way and M31. I. Dymanical Models. Anatoly Klypin, HongShen Zhao, & Rachel S. Sommerville, 573, 597 (2002)

KNAPEN, JOHAN H. Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)

KNAPP, J. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.

KNEIB, J. P. Cosmic Alignment toward the Radio Einstein Ring PKS 1830-211? F. Courbin, G. Meylan, J. P. Kneib, & C. Lidman. 575, 95 (2002)

KNEIB, JEAN-PAUL. Losing Weight: A Keck Spectroscopic Survey of the Massive Cluster of Galaxies RX J1347-1145. Judith G. Cohen & Jean-Paul Kneib. 573, 524 (2002)

Probing the Mass Distribution in Groups of Galaxies using Gravitational Lensing. Ole Möller, Priyamvada Natarajan, Jean-Paul Kneib, & A. W. Blain. 573, 562 (2002)

Ko, Y.-K. Elemental Abundances and Post-Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)

KOBAYASHI, NAOTO. Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)

KOBULNICKY, HENRY A. The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)

KOCHANEK, C. S. Completeness in Photometric and Spectroscopic Searches for Clusters. Martin White & C. S. Kochanek. 574, 24 (2002)

See MOTTA, V., et al. Direction of the 2175 $^{\circ}$ A Extinction Feature at z = 0.83. KOCHANEK, CHRISTOPHER S. PKS 1830-211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)

KOCHAROV, L. Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon 1. J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner. 573, L59 (2002)

KOCHUKHOV, OLEG P. The Variability of the Hg II λ3984 Line of the Mercury-Manganese Star α Andromedae. Saul J. Adelman, Austin F. Gulliver, Oleg P. Kochukhov, & Tanya A. Ryabchikova. 575, 449 (2002)

Koda, J. Nobeyama Millimeter Array CO (J = 1–0) Observations of the H α Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)

KÖNIGL, ARIEH. Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)

KOERNER, D. W. Mid-Infrared Images of the Debris Disk around HD 141569. K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)

Конло, K. Nobeyama Millimeter Array CO (J = 1-0) Observations of the H α Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)

KOLLÁTH, ZOLTÁN. Mode-switching Timescales in the Classical Variable Stars. J. Robert Buchler & Zoltán Kolláth. 573, 324 (2002)

Komossa, S. Discovery of an Ionized Fe K Edge in the z = 3.91Broad Absorption Line Quasar APM 08279+5255 with XMM-Newton. G. Hasinger, N. Schartel, & S. Komossa. 573, L77 (2002)

Koo, Bon-Chul. Interaction between Ionized and Molecular Gas in the Active Star-forming Region W31. Kee-Tae Kim & Bon-Chul Koo. 575, 327

KOOPMANS, LEON V. E. The Internal Structure and Formation of Early-Type Galaxies: The Gravitational Lens System MG 2016+112 at z = 1.004. Tommaso Treu & Leon V. E. Koopmans. 575, 87 (2002)

KORATKAR, ANURADHA. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy.

KORIBALSKI, B. S. See MOFFAT, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.

KORMENDY, JOHN. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.

KORZENNIK, S. G. Inversion of the Internal Solar Rotation Rate. A. Eff-Darwich, S. G. Korzennik, & S. J. Jimenez-Reyes. 573, 857 (2002)

- KOSACK, K. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- KÓTA, J. Particle Acceleration in Solar Wind Comression Regions. J. Giacalone, J. R. Jokipii, & J. Kóta. 573, 845 (2002)
- KOTHES, ROLAND. A Large Atomic Hydrogen Shell in the Outer Galaxy: Supernova Remnant or Stellar Wind Bubble? Bülent Uyaniker & Roland Kothes. 574, 805 (2002)
- KOYAMA, KATSUII. Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)
- X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with Chandra. Shin-ichiro Takagi, Hiroshi Murakami, & Katsuji Koyama. 573, 275 (2002)
- KRAEMER, S. B. See TURNER, T. J., et al. Narrow Components within the Fe $K\alpha$ Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects.
- KRAEMER, STEVEN B. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.
- KRAUSS, M. I. A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies. R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)
- KRENNRICH, F. Discovery of Spectral Variability of Markarian 421 at TeV Energies. F. Krennrich, I. H. Bond, S. M. Bradbury, J. H. Buckley, D. A. Carter-Lewis, W. Cui, I. de la Calle Perez, D. J. Fegan, J. P. Finley, J. A. Gaidos, K. Gibbs, G. H. Gillanders, T. A. Hall, A. M. Hillas, J. Holder, D. Horan, M. Jordan, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, K. Kosack, M. J. Lang, S. LeBohec, P. Moriarty, D. Müller, R. A. Ong, R. Pallassini, D. Petry, J. Quinn, N. W. Reay, P. T. Reynolds, H. J. Rose, G. H. Sembroski, R. Sidwell, N. Stanton, S. P. Swordy, V. V. Vassiliev, S. P. Wakely, & T. C. Weekes. 575, L9 (2002)
- KREYSA, ERNST. See DE PETRIS, MARCO, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.
- KRIMIGIS, S. M. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- KRISS, G. A. Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)
- KRISS, GERARD A. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.
- KROLIK, J. H. Extreme X-Ray Iron Lines in Active Galactic Nuclei. N. A. Levenson, J. H. Krolik, P. T. Zycki, T. M. Heckman, K. A. Weaver, H. Awaki, & Y. Terashima. 573, L81 (2002)
- KROLIK, JULIAN H. Where Is the Inner Edge of an Accretion Disk around a Black Hole? *Julian H. Krolik & John F. Hawley*. 573, 754 (2002)
- KUCHNER, MARC J. Halting Planet Migration in the Evacuated Centers of Protoplanetary Disks. Marc J. Kuchner & Myron Lecar. 574, L87 (2002)
- KULKARNI, S. R. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
 - Electrodynamics of Magnetars: Implications for the Persistent X-Ray Emission and Spin-down of the Soft Gamma Repeaters and Anomalous X-Ray Pulsars. *C. Thompson, M. Lyutikov, & S. R. Kulkarni.* 574, 332 (2002)
- Detecting Outer Planets in Edge-on Orbits: Combining Radial Velocity and Astrometric Techniques. J. A. Eisner & S. R. Kulkarni. 574, 426 (2002)
- KUMAR, PAWAN. Angular Momentum Exaction by Gravity Waves in the Sun. Suzanne Talon, Pawan Kumar, & Jean-Paul Zahn. 574, L175 (2002)
- KUNDU, ARUNAV. The Low-Mass X-Ray Binary-Globular Cluster Connection in NGC 4472. Arunav Kundu, Thomas J. Maccarone, & Stephen E. Zepf. 574, L5 (2002)
- KUNIEDA, HIDEYO. Broadening of Nearly Neutral Iron Emission Line of GX 301—2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)
- Kunkel, William E. See Dinescu, Dana I., et al. Absolute Proper Motions to $B\sim 22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter.

- KWOK, SUN. Subaresecond Mid-Infrared Imaging of Two Post–Asymptotic Giant Branch 21 Micron Sources. Sun Kwok, Kevin Volk, & Bruce J. Hrivnak. 573, 720 (2002)
- LADA, CHARLES J. The Luminosity and Mass Function of the Trapezium Cluster: from B Stars to the Deuterium-burning Limit. August A. Muench, Elizabeth A. Lada, Charles J. Lada, & João Alves. 573, 366 (2002)
 - Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
- LADA, ELIZABETH A. The Luminosity and Mass Function of the Trapezium Cluster: from B Stars to the Deuterium-burning Limit. August A. Muench, Elizabeth A. Lada, Charles J. Lada, & João Alves. 573, 366 (2002)
- LADD, E. F. The Evolution of the Circumstellar Environment of Embedded Young Stars from Observations of Rare Species of Carbon Monoxide. G. A. Fuller & E. F. Ladd. 573, 699 (2002)
- LAGACHE, G. Optically Faint Counterparts to the Infrared Space Observatory FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- LAINE, SEPPO. Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super–Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- LAIVOLA, J. Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon⁻¹. J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner. 573, L59 (2002)
- LAMAGNA, LUCA. See DE PETRIS, MARCO, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.
- LAMB, R. C. Discovery of a Possible Anomolous X-Ray Pulsar in the Small Magellanic Cloud. R. C. Lamb, D. W. Fox, D. J. Macomb, & T. A. Prince. 574, L29 (2002)
- LAMBERT, D. L. Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)
- LAMBERT, DAVID L. Ultraviolet Detection of Interstellar ¹²C¹⁷O and the CO Isotopomeric Rations toward X Persei. Yaron Sheffer, David L. Lambert, & S. R. Federman. 574, L171 (2002)
- LANDECKER, T. L. A Highly Ordered Faraday Rotation Structure in the Interstellar Medium. B. Uyaniker & T. L. Landecker. 575, 225 (2002)
- LANDI, E. A Comparison between Coronal Emission Lines from an Isothermal Spectrum Observed with the Coronal Diagnostic Spectrometer and CHIANTI Emissivities. E. Landi, U. Feldman, & K. P. Dere. 574, 495 (2002)
- LANDI, ENRICO. Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- LANDI DEGL'INNOCENTI, EGIDIO. On the Atomic Polarization of the Ground Level of Na 1. Roberto Casini, Egidio Landi Degl'Innocenti, Marco Landolfi, & Javier Trujillo Bueno. 573, 864 (2002)
- LANDOLFI, MARCO. On the Atomic Polarization of the Ground Level of Na I. Roberto Casini, Egidio Landi Degl'Innocenti, Marco Landolfi, & Javier Trujillo Bueno. 573, 864 (2002)
- LANE, BENJAMIN F. Long-Baseline Interferometric Observations of Cepheids. Benjamin F. Lane, Michelle J. Creech-Eakman, & Tyler E. Nordgren. 573, 330 (2002)
- LANG, M. J. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- LANGER, WILLIAM D. H I: A Chemical Tracer of Turbulent Diffusion in Molecular Clouds. Karen Willacy, William D. Langer, & Mark Allen. 573, L119 (2002)
- LARA, ALEJANDRO. Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- LARIONOV, V. M. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999e1.
- LARSON, D. E. Eletrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)

LAUER, TOD R. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.

LAUREUS, R. Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)

LAZARIAN, A. Magnetohydrodynamic Turbulence as a Foreground for Cosmic Microwave Background Studies. Jungyeon Cho & A. Lazarian. 575, L63 (2002)

LEBOHEC, S. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.

LECAR, MYRON. Halting Planet Migration in the Evacuated Centers of Protoplanetary Disks. Marc J. Kuchner & Myron Lecar. 574, L87 (2002)

LEE, C.-H. Discovery of a Black Hole Mass-Period Correlation in Soft X-Ray Transients and Its Implication for Gamma-Ray Burst and Hypernova Mechanisms. C.-H. Lee, G. E. Brown, & R. A. M. J. Wijers. 575, 996 (2002)

LEE, DAE-HEE. ORFEUS Observations of the Foreground Gas toward HD 37903. Dae-Hee Lee, Kyoung-Wook Min, S. R. Federman, Kwang-Sun Ryu, Won-Yong Han, Uk-Won Nam, Hyun-Soo Chung, W. Van Dyke Dixon, & Mark Hurwitz. 575, 234 (2002)

LEE, JOUNGHUN. Bias and Conditional Mass Function of Dark Halos Based on the Nonspherical Collapse Model. Lihwai Lin, Tzihong Chiueh, & Jounghun Lee. 574, 527 (2002)

LEE, JULIA C. The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657-415. Deepto Chakrabarty, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)

LEE, S.-W. Discovery of High-Latitude CO in an H I Supershell in NGC 5775.
S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573,
L107 (2002)

LEECH, K. Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)

LEHNER, M. J. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.

LEHNERT, M. D. Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)

LEHTINEN, N. Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon⁻¹. J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner. 573, L59 (2002)

LEIGHLY, KAREN M. NGC 4151: An Intrinsically Average Seyfert 1. Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)

LEITHERER, CLAUS. Ultraviolet Spectra of Star-forming Galaxies with Time-dependent Dust Obscuration. Claus Leitherer, Daniela Calzetti, & Lucimara P. Martins. 574, 114 (2002)

LEMKE, M. Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)

LEON, S. Discovery of High-Latitude CO in an H I Supershell in NGC 5775.
S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)

LEPISCHAK, D. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.

LESKE, R. A. See Mason, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.

LEVATO, H. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.

LEVATO, HUGO. Rotational Velocities of B Stars. Helmut A. Abt, Hugo Levato, & Monica Grosso. 573, 359 (2002)

LEVENSON, N. A. Extreme X-Ray Iron Lines in Active Galactic Nuclei. N. A. Levenson, J. H. Krolik, P. T. Zycki, T. M. Heckman, K. A. Weaver, H. Awaki, & Y. Terashima. 573, L81 (2002)

LEVINSON, A. Neutrino Flux Predictions for Known Galactic Microquasars. C. Distefano, D. Guetta, E. Waxman, & A. Levinson. 575, 378 (2002)

LEWIN, WALTER H. G. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions. A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)

LEWIS, AARON D. Chandra Observations of Abell 2029: No Cooling Flow and a Steep Abundance Gradient. Aaron D. Lewis, John T. Stocke, & David A. Buote. 573, L13 (2002)

L1, J. Elemental Abundances and Post—Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)

LI, ZHI-YUN. Self-gravitating Magnetically Supported Protostellar Disks and the Formation of Substellar Companions. Zhi-Yun Li. 574, L159 (2002)

LIDMAN, C. Cosmic Alignment toward the Radio Einstein Ring PKS 1830–211? F. Courbin, G. Meylan, J. P. Kneib, & C. Lidman. 575, 95 (2002)

LIEBERT, JAMES. Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)

LIEDAHL, DUANE A. See KINKHABWALA, ALI, et al. XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068.

LIEU, RICHARD. Low-Energy X-Ray Emission from the Abell 2199 Cluster of Galaxies. Jelle S. Kaastra, Richard Lieu, Johan A. M. Bleeker, Rolf Mewe, & Sergio Colafrancesco. 574, L1 (2002)

LIMONGI, MARCO. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.

See HANSEN, BRAD M. S., et al. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.

LIN, D. N. C. Calculating the Tidal, Spin, and Dynamical Evolution of Extrasolar Planetary Systems. Rosemary A. Mardling & D. N. C. Lin. 573, 829 (2002)

LIN, LIHWAI. Bias and Conditional Mass Function of Dark Halos Based on the Nonspherical Collapse Model. Lihwai Lin, Tzihong Chiueh, & Jounghun Lee. 574, 527 (2002)

LIN, R. P. Eletrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)

LIN, YANGTING. Presolar Grains from the Qingzhen (EH3) Meteorite. Yangting Lin, Sachiko Amari, & Olga Pravdivtseva. 575, 257 (2002)

LINDLER, D. See TRIPP, T. M., et al. The Heavy-Element Enrichment of $Ly\alpha$ Clouds in the Virgo Supercluster.

LINSKY, JEFFREY L. Measured Mass-Loss Rates of Solar-like Stars as a Function of Age and Activity. Brian E. Wood, Hans-Reinhard Müller, Gary P. Zank, & Jeffrey L. Linsky. 574, 412 (2002)

LITES, B. W. Characterization of Magnetic Flux in the Quiet Sun. B. W. Lites. 573, 431 (2002)

Converging Flows in the Penumbra of a δ Sunspot. B. W. Lites, H. Socas-Navarro, A. Skumanich, & T. Shimizu. 575, 1131 (2002)

Liu, B. F. Two-Temperature Coronal Flow above a Thin Disk. B. F. Liu, S. Mineshige, F. Meyer, E. Meyer-Hofmeister, & T. Kawaguchi. 575, 117 (2002)

LIU, SIMING. Spin-induced Disk Precession in the Supermassive Black Hole at the Galactic Center. Siming Liu & Fulvio Melia. 573, L23 (2002)

LIU, Y. See Gibson, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.

LIVIO, M. Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)

LLOYD, C. Tomographic Separation of Composite Spectra. IX. The Massive Close Binary HD 115071. Laura R. Penny, Douglas R. Gies, John H. Wise, D. J. Stickland, & C. Lloyd. 575, 1050 (2002)

LLOYD-RONNING, NICOLE M. Cosmological Aspects of Gamma-Ray Bursts: Luminosity Evolution and an Estimate of the Star Formation Rate at High Redshifts. Nicole M. Lloyd-Ronning, Chris L. Fryer, & Enrico Ramirez-Ruiz. 574, 554 (2002)

LOEB, ABRAHAM. Constraining Cosmological Parameters Based on Relative Galaxy Ages. Raul Jimenez & Abraham Loeb. 573, 37 (2002)

The Expected Redshift Distribution of Gamma-Ray Bursts. Volker Bromm & Abraham Loeb. 575, 111 (2002)

LÓPEZ ARISTE, A. Magnetic Fields in Prominences: Inversion Techniques for Spectropolarimetric Data of the He 1 D₃ Line. A. López Ariste & R. Casini. 575, 529 (2002)

- LORENZ, REINALD. Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)
- LORENZETTI, DARIO. Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources. Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)
- LU, LIMIN. See TAKADA-HIDAI, MASAHIDE, et al. Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs.
- LUNDQVIST, PETER. Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blimikov, & Chun S. J. Pun. 574, 293 (2002)
- LUTZ, D. Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten, 573, 473 (2002)
- LUTZ, DIETER. The Extinction and Metallicity of Galactic H II Regions from ISO-SWS Observations of Mid-Infrared Fine Structure Lines: Erratum (ApJ, 566, 880 [2002]). Uriel Giveon, Amiel Sternberg, Dieter Lutz, Helmut Fechtgruber, & A. W. A. Pauldrach. 575, 585 (2002) (Orig. paper in 566, 880 (2002))
- LYNCH, DAVID K. Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995). Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)
- LYUTIKOV, M. Electrodynamics of Magnetars: Implications for the Persistent X-Ray Emission and Spin-down of the Soft Gamma Repeaters and Anomalous X-Ray Pulsars. C. Thompson, M. Lyutikov, & S. R. Kulkarni. 574, 332 (2002)
- MACCARONE, THOMAS J. The Low-Mass X-Ray Binary-Globular Cluster Connection in NGC 4472. Arunav Kundu, Thomas J. Maccarone, & Stephen E. Zepf. 574, L5 (2002)
- MACFARLAND, T. J. See EVRARD, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- MACHO COLLABORATION, THE. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- MACIEJEWSKI, WITOLD. Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303. Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A. Moustakas. 575, 826 (2002)
- MACKEY, JONATHAN. Completeness in Weak-Lensing Searches for Clusters. Martin White, Ludovic van Waerbeke, & Jonathan Mackey. 575, 640 (2002)
- MACOMB, D. J. Discovery of a Possible Anomolous X-Ray Pulsar in the Small Magellanic Cloud. R. C. Lamb, D. W. Fox, D. J. Macomb, & T. A. Prince. 574, L29 (2002)
- MADAU, PIERO. Early Enrichment of the Intergalactic Medium and Its Feedback on Galaxy Formation. Evan Scannapieco, Andrea Ferrara, & Piero Madau. 574, 590 (2002)
- MADORE, B. F. ¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)
- MAGORRIAN, JOHN. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- MAHABAL, A. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- MAHAPATRA, UTTAM SINHA. Accurate Calculations of Interstellar Lines of Mg⁺ Using the Coupled Cluster Approach. Sonjoy Majumder, Holger Merlitz, Geetha Gopakumar, B. P. Das, Uttam Sinha Mahapatra, & Debashis Mukheriee. 574, 513 (2002)
- МАЈЕWSKI, ŚTEVEN R. See DINESCU, DANA I., et al. Absolute Proper Motions to $B\sim 22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter.
- MAJUMDER, SONJOY. Accurate Calculations of Interstellar Lines of Mg⁺ Using the Coupled Cluster Approach. Sonjoy Majumder, Holger Merlitz, Geetha Gopakumar, B. P. Das, Uttam Sinha Mahapatra, & Debashis Mukherjee. 574, 513 (2002)
- MALHOTRA, RENU. A Dynamical Mechanism for Establishing Apsidal Resonance. Renu Malhotra. 575, L33 (2002)
- MALONEY, FRANK P. Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas,

- Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- MANDRINI, C. H. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- MANNING, CURTIS V. The Search for Intergalactic Hydrogen Clouds in Voids. Curtis V. Manning. 574, 599 (2002)
- MARASCHI, L. Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)
 - See Tavecchio, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with *BeppoSAX*.
- MARCHENKO, S. V. See MOFFAT, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- MARCHESINI, DANILO. Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)
- MARCONI, M. On the Distance of Magellanic Clouds: First Overtone Cepheids. G. Bono, M. A. T. Groenewegen, M. Marconi, & F. Caputo. 574, L33 (2002)
- MARDLING, ROSEMARY A. Calculating the Tidal, Spin, and Dynamical Evolution of Extrasolar Planetary Systems. Rosemary A. Mardling & D. N. C. Lin. 573, 829 (2002)
- MARENGO, MASSIMO. See Nicastro, Fabrizio, et al. Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155—304: The Local Filament?
- MARGON, BRUCE. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions.
 - See Callanan, Paul J., et al. The Peculiar Infrared Counterpart of GX 17+2.
- MARKOWITZ, A. Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)
- MARKWARDT, C. B. Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)
- MARSH, K. A. Mid-Infrared Images of the Debris Disk around HD 141569.
 K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
- MARSHALL, F. E. Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)
- MARSHALL, HERMAN L. Using the High-Resolution X-Ray Spectrum of PSR B0656+14 to Constrain the Chemical Composition of the Neutron Star Atmosphere. Herman L. Marshall & Norbert S. Schulz. 574, 377 (2002)
- MARSHALL, S. L. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- MARTIN, CRYSTAL L. The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)
- MARTÍNEZ-DELGADO, D. Remnants of the Sagittarius Dwarf Spheroidal Galaxy around the Young Globular Cluster Palomar 12. D. Martínez-Delgado, R. Zinn, R. Carrera, & C. Gallart. 573, L19 (2002)
- MARTÍN-PINTADO, J. On the Heating Source of the Orion KL Hot Core. P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco. 574, L163 (2002)
- Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)
- MARTINS, C. J. A. P. Modified Median Statistics and Type Ia Supernova Data. P. P. Avelino, C. J. A. P. Martins, & P. Pinto. 575, 989 (2002)
- MARTINS, LUCIMARA P. Ultraviolet Spectra of Star-forming Galaxies with Time-dependent Dust Obscuration. Claus Leitherer, Daniela Calzetti, & Lucimara P. Martins. 574, 114 (2002)
- MARUN, A. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- MASAI, KUNIAKI. Broadening of Nearly Neutral Iron Emission Line of GX 301-2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)

MASCIADRI, E. Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, &

A. Noriega-Crespo. 573, 260 (2002)

MASON, G. M. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares. G. M. Mason, M. E. Wiedenbeck, J. A. Miller, J. E. Mazur, E. R. Christian, C. M. S. Cohen, A. C. Cummings, J. R. Dwyer, R. E. Gold, S. M. Krimigis, R. A. Leske, R. A. Mewaldt, P. L. Slocum, E. C. Stone, & T. T. von Rosenvinge. 574, 1039 (2002)

MASON, H. E. See Gibson, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.

MASSI, F. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.

MATHEWS, GRANT J. Model-independent Primordial Power Spectrum from MAXIMA, BOOMERANG, and DASI Data. Yun Wang & Grant J. Mathews. 573, 1 (2002)

MATHEWS, WILLIAM G. Heated Cooling Flows. Fabrizio Brighenti & William G. Mathews. 573, 542 (2002)

Creation of X-Ray Holes with Cool Rims in Cooling Flows. Fabrizio Brighenti & William G. Mathews. 574, L11 (2002)

MATHIS, JOHN S. Can Reflection from Grains Diagnose the Albedo? John S. Mathis, Barbara A. Whitney, & Kenneth Wood. 574, 812 (2002)

MATHUR, SMITA. See NICASTRO, FABRIZIO, et al. Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155—304: The Local Filament? See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment

in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.

MATSUBARA, TAKAHIKO. Cosmological Parameters from Redshift-Space Correlations. Takahiko Matsubara & Alexander S. Szalay. 574, 1 (2002)

MATSUOKA, MASARU. NGC 4151: An Intrinsically Average Seyfert 1.
Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)

MATT, SEAN. Simulation-based Investigation of a Model for the Interaction between Stellar Magnetospheres and Circumstellar Accretion Disks. Sean Matt, Anthony P. Goodson, Robert M. Winglee, & Karl-Heinz Bohm. 574, 232 (2002)

MATTHAEUS, W. H. Coronal Heating Distribution Due to Low-Frequency, Wave-driven Turbulence. P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)

MATTHEWS, BRENDA C. Magnetic Fields in Star-forming Molecular Clouds. V. Submillimeter Polarization of the Barnard 1 Dark Cloud. Brenda C. Matthews & Christine D. Wilson. 574, 822 (2002)

MAYER, PAVEL. Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)

MAZETS, E. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.

MAZUK, S. Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995). Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)

MAZUR, J. E. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.

McBreen, B. Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)

McCabe, C. NICMOS Images of the GG Tau Circumbinary Disk. C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002)

McCall, Benjamin J. Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)

McCandliss, Stephan R. Rocket Observations of Far-Ultraviolet Dust Scattering in NGC 2023. Eric B. Burgh, Stephan R. McCandliss, & Paul D. Feldman. 575, 240 (2002)

McCarthy, Ian G. The Cluster Mgas-T_X Relation: Evidence for a High Level of Preheating. lan G. McCarthy, Arif Babul, & Michael L. Balogh. 573, 515 (2002)

McCarthy, J. K. Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)

McCray, Richard. See Michael, Eli, et al. The X-Ray Spectrum of Supernova Remnant 1987A. McDavid, David. A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity. Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)

McHardy, I. M. Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92

(2002)

MCKINNEY, JONATHAN C. Numerical Models of Viscous Accretion Flows near Black Holes. Jonathan C. McKinney & Charles F. Gammie. 573, 728 (2002)

MCLEOD, BRIAN A. PKS 1830—211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)

McLin, Kevin M. The Local Lyα Forest: Absorbers in Galaxy Voids. Kevin M. McLin, John T. Stocke, R. J. Weymann, Steven V. Penton, & J. Michael Shull. 574, L115 (2002)

MCMAHON, J. J. New Limits on the Polarized Anisotrophy of the Cosmic Microwave Background at Subdegree Angular Scales. M. M. Hedman, D. Barkats, J. O. Gundersen, J. J. McMahon, S. T. Staggs, & B. Winstein. 573, L73 (2002)

McMahon, R. G. See Carilli, C. L., et al. Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944.

MEDIAVILLA, E. A Large Brightness Enhancement of the QSO 0957+561 A Component. A. Oscoz, D. Alcalde, M. Serra-Ricart, E. Mediavilla, & J. A. Muñoz. 573, L1 (2002)

See MOTTA, V., et al. Direction of the 2175 Å Extinction Feature at z = 0.83. MELCHIORRI, FRANCESCO. See DE PETRIS, MARCO, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.

MELÉNDEZ, JORGE. Keck NIRSPEC Infrared OH Lines: Oxygen Abundances in Metal-poor Stars Down to [Fe/H] = -2.9. Jorge Meléndez & Beatriz Barbuy. 575, 474 (2002)

MELIA, FULVIO. Spin-induced Disk Precession in the Supermassive Black Hole at the Galactic Center. Siming Liu & Fulvio Melia. 573, L23 (2002)

MELO, A. M. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.

MELO, V. P. The Spatial Distribution of the Far-Infrared Emission in NGC 253.
V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)

MENCI, N. Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)

MENDEZ, M. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.

MÉNDEZ, MARIANO. XMM-Newton Observations of the Neutron Star X-Ray Transient KS 1731–260 in Quiescence. Rudy Wijnands, Matteo Guainazzi, Michiel van der Klis, & Mariano Méndez. 573, L45 (2002)

Méndez, René A. See Dinescu, Dana I., et al. Absolute Proper Motions to $B\sim22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter.

MENNA, M. T. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.

MENTEN, K. Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)

MENTEN, K. M. See CARILLI, C. L., et al. Imaging Low-Order CO Emissions from the z=4.12 Quasi-Stellar Object PSS J2322+1944.

MEREGHETTI, S. BeppoSAX Observations of the Young Pulsar in the Kes 75 Supernova Remnant. S. Mereghetti, R. Bandiera, F. Bocchino, & G. L. Israel. 574, 873 (2002)

See Campana, S., et al. An *XMM-Newton* Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Ouiescence.

MERLITZ, HOLGER. Accurate Calculations of Interstellar Lines of Mg* Using the Coupled Cluster Approach. Sonjoy Majumder, Holger Merlitz, Geetha Gopakumar, B. P. Das, Uttam Sinha Mahapatra, & Debashis Mukherjee. 574, 513 (2002)

METCALFE, L. Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)

- METCALFE, T. S. Measuring $^{12}C(\alpha, \gamma)^{16}O$ from White Dwarf Asteroseimology. T. S. Metcalfe, M. Salaris, & D. E. Winget. 573, 803 (2002)
- MEWALDT, R. A. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- MEWE, ROLF. Low-Energy X-Ray Emission from the Abell 2199 Cluster of Galaxies. Jelle S. Kaastra, Richard Lieu, Johan A. M. Bleeker, Rolf Mewe, & Sergio Colafrancesco. 574, L1 (2002)
- MEYER, F. Two-Temperature Coronal Flow above a Thin Disk. B. F. Liu, S. Mineshige, F. Meyer, E. Meyer-Hofmeister, & T. Kawaguchi. 575, 117 (2002)
- MEYER-HOFMEISTER, E. Two-Temperature Coronal Flow above a Thin Disk. B. F. Liu, S. Mineshige, F. Meyer, E. Meyer-Hofmeister, & T. Kawaguchi. 575, 117 (2002)
- MEYLAN, G. Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)
- Cosmic Alignment toward the Radio Einstein Ring PKS 1830-211? F. Courbin, G. Meylan, J. P. Kneib, & C. Lidman. 575, 95 (2002)
- MICHAEL, ELI. The X-Ray Spectrum of Supernova Remnant 1987A. Eli Michael, Svetozar Zhekov, Richard McCray, Una Hwang, David N. Burrows, Sangwook Park, Gordon P. Garmire, Stephen S. Holt, & Günther Hasinger, 574, 166 (2002)
- MIHARA, TATEHIRO. NGC 4151: An Intrinsically Average Seyfert 1. Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)
- MIHOS, J. CHRISTOPHER. Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding. 575, 779 (2002)
- MILANO, L. J. Coronal Heating Distribution Due to Low-Frequency, Wave-driven Turbulence. P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)
- MILLAR, T. J. The Synthesis of Benzene in the Proto-planetary Nebula CRL 618. Paul M. Woods, T. J. Millar, A. A. Zijlstra, & Eric Herbst. 574, L167 (2002)
- MILLER, J. A. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- MILLER, JON M. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions.
- MILSOM, J. A. Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)
- Min, Kyoung-Wook. See Lee, Dae-Hee, et al. *ORFEUS* Observations of the Foreground Gas toward HD 37903.
- MINESHIGE, S. Two-Temperature Coronal Flow above a Thin Disk. B. F. Liu, S. Mineshige, F. Meyer, E. Meyer-Hofmeister, & T. Kawaguchi. 575, 117 (2002)
- MINESHIGE, SHIN. Does the Slim-Disk Model Correctly Consider Photontrapping Effects? Ken Ohsuga, Shin Mineshige, Masao Mori, & Masayuki Umemura. 574, 315 (2002)
- MININNI, PABLO D. Study of Stochastic Fluctuations in a Shell Dynamo. Pablo D. Minimi & Daniel O. Gómez. 573, 454 (2002)
- MINNITI, D. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- MINNITI, DANTE. K-Band Red Clump Distance to the Large Magellanic Cloud. David R. Alves, Marina Rejkuba, Dante Minniti, & Kem H. Cook. 573, 151 (2002).
- Extragalactic Globular Cluster Planetary Nebulae: Discovery of a Planetary Nebula in the NGC 5128 Globular Cluster G169 Using the Magellan I Baade Telescope. *Dante Minniti & Marina Rejkuba*. 575, L59 (2002)
- MIRABAL, N. The Next Geminga: Deep Multiwavelength Observations of a Neutron Star Identified with 3EG J1835+5918. J. P. Halpern, E. V. Gotthelf, N. Mirabal, & F. Camilo. 573, L41 (2002)
- Is the EGRET Source 3EG J1621+8203 the Radio Galaxy NGC 6251?
 R. Mukherjee, J. Halpern, N. Mirabal, & E. V. Gotthelf. 574, 693 (2002)
- MIRALLES, JUAN A. Hydromagnetic Instabilities in Proto-Neutron Stars. Juan A. Miralles, José A. Pons, & Vadim A. Urpin. 574, 356 (2002)
- MIROSHNICHENKO, ANATOLY S. A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity.

- Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)
- MISRA, RANJEEV. The Effect of the Dissipative Corona on the Structure and Stability of Cold Optically Thick Accretion Disks at High Accretion Rates. Ranjeev Misra & Ronald E. Taam. 573, 764 (2002)
- MITCHELL, ROBERT C. Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)
- MIZUNO, AKIRA. Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574. 187 (2002)
- A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)
- MIZUNO, NORIKAZU. Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002)
- MÖLLER, OLE. Probing the Mass Distribution in Groups of Galaxies using Gravitational Lensing. Ole Möller, Priyamvada Natarajan, Jean-Paul Kneib, & A. W. Blain. 573, 562 (2002)
- MOFFAT, A. F. J. Galactic Starburst NGC 3603 from X-Rays to Radio. A. F. J. Moffat, M. F. Corcoran, I. R. Stevens, G. Skalkowski, S. V. Marchenko, A. Mücke, A. Ptak, B. S. Koribalski, L. Brenneman, R. Mushotzky, J. M. Pittard, A. M. T. Pollock, & W. Brandner, 573, 191 (2002)
- MOHAN, NIRUJ R. Very Large Array Detection of Radio Recombination Lines from the Radio Nucleus of NGC 253: Inoization by a Weak Active Galactic Nucleus, an Obscured Super Star Cluster, or a Compact Supernova Remnant? Niruj R. Mohan, K. R. Anantharamaiah, & W. M. Goss. 574, 701 (2002)
- MOLINARI, EMILIO. Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)
- Møller, P. Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)
- MOLNAR, SANDOR M. Chandra Observations of Unresolved X-Ray Sources around Two Clusters of Galaxies. Sandor M. Molnar, John P. Hughes, Megan Donahue, & Marshall Jov. 573, L91 (2002)
- MONSON, S. J. Eletrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)
- MOON, Y.-J. Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
 - Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
- MORELLI, L. Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)
- MORI, MASAO. Does the Slim-Disk Model Correctly Consider Photon-trapping Effects? Ken Ohsuga, Shin Mineshige, Masao Mori, & Masayuki Umemura. 574, 315 (2002)
- MORIARTY, P. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- MORRIS, M. Spatially Resolved Observations of the Galactic Center Source IRS 21. A. Tanner, A. M. Ghez, M. Morris, E. E. Becklin, A. Cotera, M. Ressler, M. Werner, & P. Wizinowich. 575, 860 (2002)
- MORRISON, G. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- MORRISON, HEATHER L. Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding. 575, 779 (2002)
- MORSINK, S. M. Normal Modes of Rotating Magnetic Stars. S. M. Morsink & V. Rezania. 574, 908 (2002)

- MOTTA, V. Direction of the 2175 ^aA Extinction Feature at z = 0.83. V. Motta, E. Mediavilla, J. A. Muñoz, E. Falco, C. S. Kochanek, S. Arribas, B. García-Lorenzo, A. Oscoz, & M. Serra-Ricart. 574, 719 (2002)
- MOULD, J. R. A Proper-Motion Survey for White Dwarfs with the Wide Field Planetary Camera 2. C. A. Nelson, K. H. Cook, T. S. Axelrod, J. R. Mould, & C. Alcock, 573, 644 (2002)
- MOUSTAKAS, LEONIDAS A. Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303. Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A. Moustakas. 575, 826 (2002)
- Mücke, A. See Moffat, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- MÜLLER, HANS-REINHARD. Measured Mass-Loss Rates of Solar-like Stars as a Function of Age and Activity. Brian E. Wood, Hans-Reinhard Müller, Gary P. Zank, & Jeffrey L. Linsky. 574, 412 (2002)
- MUENCH, AUGUST A. The Luminosity and Mass Function of the Trapezium Cluster: from B Stars to the Deuterium-burning Limit. August A. Muench, Elizabeth A. Lada, Charles J. Lada, & João Alves. 573, 366 (2002)
- Mukherjee, Debashis. Accurate Calculations of Interstellar Lines of Mg⁺ Using the Coupled Cluster Approach. Sonjoy Majumder, Holger Merlitz, Geetha Gopakumar, B. P. Das, Uttam Sinha Mahapatra, & Debashis Mukherjee. 574, 513 (2002)
- MUKHERJEE, R. Is the EGRET Source 3EG J1621+8203 the Radio Galaxy NGC 6251? R. Mukherjee, J. Halpern, N. Mirabal, & E. V. Gotthelf. 574, 693 (2002)
- MULLAN, D. J. Coronal Heating Distribution Due to Low-Frequency, Wave-driven Turbulence. P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)
- MÜLLER, D. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- MUNDELL, C. G. H 1 Absorption in the Gigamaser Galaxy TXS 2226—184 and the Relation between H 1 Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
- MUNÑOZ, J. A. A Large Brightness Enhancement of the QSO 0957+561 A Component. A. Oscoz, D. Alcalde, M. Serra-Ricart, E. Mediavilla, & J. A. Muñoz, 573, L1 (2002)
- MUÑOZ, J. A. See MOTTA, V., et al. Direction of the 2175 $^{\circ}$ A Extinction Feature at z=0.83.
- MUNOZ-TUÑÓN, C. The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)
- MURAKAMI, HIROSHI. X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with Chandra. Shin-ichiro Takagi, Hiroshi Murakami, & Katsuji Koyama. 573, 275 (2002)
- MURAYAMA, TAKASHI. Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. Tohru Nagao, Takashi Murayama, Yasuhiro Shioya, & Yoshiaki Taniguchi. 575, 721 (2002)
- Murphy, Ronald J. Directionality of Solar Flare–accelerated Protons and α -Particles from γ -Ray Line Measurements. Gerald H. Share, Ronald J. Murphy, Jürgen Kiener, & Nicolas de Séréville. 573, 464 (2002)
- MUSCHIETTI, L. Eletrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson, 575, L25 (2002)
- Mushotzky, R. See Moffat, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- Mushotzky, R. F. See Turner, T. J., et al. Narrow Components within the Fe $K\alpha$ Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects.
- MUSHOTZKY, RICHARD F. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.
- MUSIELAK, Z. E. On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)
- MUTCHLER, MAX. Slitless Spectroscopy of Large Magellanic Cloud Planetary Nebulae: A Study of the Emission Lines and Morphology. Letizia Stanghellini, Richard A. Shaw, Max Mutchler, Stacy Palen, Bruce Balick, & J. Chris Blades. 575, 178 (2002)

- NAGAO, TOHRU. Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. *Tohru Nagao*, *Takashi Murayama*, *Yasuhiro Shioya*, & *Yoshiaki Taniguchi*. 575, 721 (2002)
- NAGASE, FUMIAKI. Broadening of Nearly Neutral Iron Emission Line of GX 301—2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)
- NAGASHIMA, MASAHIRO. Analytic Approach to the Cloud-in-Cloud Problem for Non-Gaussuian Density Fluctuations. *Kaiki Taro Inoue & Masahiro Nagashima*. 574, 9 (2002)
- NAGATA, TETSUYA. Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002)
- NAKANISHI, H. Nobeyama Millimeter Array CO (J = 1–0) Observations of the Hα Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)
- NAKANO, TAKENORI. Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)
- NAKAYA, HIDEHIKO. Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002)
- NAM, UK-WON. See LEE, DAE-HEE, et al. ORFEUS Observations of the Foreground Gas toward HD 37903.
- Nandra, K. See Turner, T. J., et al. Narrow Components within the Fe $K\alpha$ Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects.
- NANDRA, KIRPAL. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy.
- NARAYAN, RAMESH. On the Lack of Type I X-Ray Bursts in Black Hole X-Ray Binaries: Evidence for the Event Horizon? Ramesh Narayan & Jeremy S. Heyl. 574, L139 (2002)
- NARAYANAN, V. K. Stellar Mixing and the Primordial Lithium Abundance. M. H. Pinsonneault, G. Steigman, T. P. Walker, & V. K. Narayanan. 574, 398 (2002)
- NATARAJAN, PRIYAMVADA. Probing the Mass Distribution in Groups of Galaxies using Gravitational Lensing. Ole Möller, Priyamvada Natarajan, Jean-Paul Kneib, & A. W. Blain. 573, 562 (2002)
- NELSON, C. A. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- A Proper-Motion Survey for White Dwarfs with the Wide Field Planetary Camera 2. C. A. Nelson, K. H. Cook, T. S. Axelrod, J. R. Mould, & C. Alcock. 573, 644 (2002)
- Neri, R. On the Heating Source of the Orion KL Hot Core. P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco. 574, L163 (2002)
- Netzer, H. See Turner, T. J., et al. Narrow Components within the Fe $K\alpha$ Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects.
- NETZER, HAGAI. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.
- NEWMAN, ALICE L. Quantification of Uncertainty in the Measurement of Magnetic Fields in Clusters of Galaxies. William I. Newman, Alice L. Newman, & Yoel Rephaeli. 575, 755 (2002)
- NEWMAN, WILLIAM I. Quantification of Uncertainty in the Measurement of Magnetic Fields in Clusters of Galaxies. William I. Newman, Alice L. Newman, & Yoel Rephaeli. 575, 755 (2002)
- NEWMARK, JEFFREY S. Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- NICASTRO, FABRIZIO. Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155–304: The Local Filament? Fabrizio Nicastro, Andreas Zezas, Jeremy Drake, Martin Elvis, Fabrizio Fiore, Antonella Fruscione, Massimo Marengo, Smita Mathur, & Stefano Bianchi. 573, 157 (2002)

- NICOLA, BENNERT. Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)
- NICOLOSI, P. Two-dimensional Structure of a Polar Coronal Hole at Solar Minimum: New Semiepirical Methodology for Deriving Plasma Parameters. L. Zangrilli, G. Poletto, P. Nicolosi, G. Noci, & M. Romoli. 574, 477 (2002)
- NINDOS, A. Photospheric Motions and Coronal Mass Ejection Productivity. A. Nindos & H. Zhang. 573, L133 (2002)
- NISHI, RYOICHI. Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)
- NISINI, BRUNELLA. Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources. Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)
- NITTA, N. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- Noci, G. Two-dimensional Structure of a Polar Coronal Hole at Solar Minimum: New Semiepirical Methodology for Deriving Plasma Parameters. L. Zangrilli, G. Poletto, P. Nicolosi, G. Noci, & M. Romoli. 574, 477 (2002)
- NOGUCHI, K. Magnetorotational Instability in Liquid Metal Couette Flow. K. Noguchi, V. I. Pariev, S. A. Colgate, H. F. Beckley, & J. Nordhaus. 575, 1151 (2002)
- Nomoto, Ken'ichi. See Gerardy, Christopher L., et al. Extraordinary Late-Time Infrared Emission of Type IIn Supernovae.
- NORDGREN, TYLER E. Long-Baseline Interferometric Observations of Cepheids. Benjamin F. Lane, Michelle J. Creech-Eakman, & Tyler E. Nordgren. 573, 330 (2002)
- NORDHAUS, J. Magnetorotational Instability in Liquid Metal Couette Flow. K. Noguchi, V. I. Pariev, S. A. Colgate, H. F. Beckley, & J. Nordhaus. 575, 1151 (2002)
- NORDLUND, ÅKE. Scaling Relations of Supersonic Turbulance in Star-forming Molecular Clouds. Stanislav Boldyrev, Åke Nordlund, & Paolo Padoan. 573, 678 (2002)
- NORIEGA-CRESPO, A. Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)
- NORRIS, JOHN E. Deciphering the Last Major Invasion of the Milky Way. Gerard Gilmore, Rosemary F.G. Wyse, & John E. Norris. 574, L39 (2002)
- NOWAK, MICHAEL A. Hiding in Plain Sight: Chandra Observations of the Quiescent Neutron Star 4U 2129+47 in Eclipse. Michael A. Nowak, Sebastian Heinz, & M. C. Begelman. 573, 778 (2002)
- NUGENT, PETER E. Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)
- NYMAN, L.-A. Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-A. Nyman. 573, L123 (2002)
- O'BRIEN, D. P. Stability of Satellities around Close-in Extrasolar Giant Planets. Jason W. Barnes & D. P. O'Brien. 575, 1087 (2002)
- O'DEA, C. P. H I Absorption in the Gigamaser Galaxy TXS 2226-184 and the Relation between H I Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore, 574, 88 (2002)
- ÖZEL, FERYAL. Timing Properties of Magnestars. Feryal Özel. 575, 397 (2002)
 OFMAN, L. Interaction of EIT Waves with Coronal Active Regions. L. Ofman & B. J. Thompson. 574, 440 (2002)
- OGURI, MASAMUNE. Systematic Effects on Tangential and Radial Arc Statistics: The Finite Source Size and Ellipticities of the Lens and Source. Masamune Oguri. 573, 51 (2002)
- O'HALLORAN, B. Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)
- OHSUGA, KEN. Does the Slim-Disk Model Correctly Consider Photon-trapping Effects? Ken Ohsuga, Shin Mineshige, Masao Mori, & Masayuki Umemura. 574, 315 (2002)
- OKAMOTO, I. Magnetohydrodynamic Accleration of the Crab Pulsar Wind. I. Okamoto. 573, L31 (2002)

- OKAMOTO, TAKEMI. Mass Reconstruction with Cosmic Microwave Background Polarization. Wayne Hu & Takemi Okamoto. 574, 566 (2002)
- OKUMURA, S. K. Nobeyama Millimeter Array CO (J = 1–0) Observations of the Hα Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)
- OLLING, ROB P. Astrometry Survey Missions beyond the Magnitude Limit. Samir Salim, Andrew Gould, & Rob P. Olling. 573, 631 (2002)
- OMONT, A. See CARILLI, C. L., et al. Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944.
- ONG, R. A. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- ONISHI, TOSHIKAZU. A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)
- ONODERA, S. Nobeyama Millimeter Array CO (J = 1–0) Observations of the Hα Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)
- OPHER, R. The Role of Damped Alfvén Waves in Magnetospheric Accretion Models of Young Stars. M. J. Vasconcelos, V. Jatenco-Pereira, & R. Opher. 574, 847 (2002)
- ORD, S. M. The Scintillation Velocity of the Relativistic Binary Pulsar PSR J1141-6545. S. M. Ord, M. Bailes, & W. van Straten. 574, L75 (2002)
- ORLANDO, ANGIOLA. See DE PETRIS, MARCO, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.
- ORTEGA, V. G. The Origin of the β Pictoris Moving Group. V. G. Ortega, R. de la Reza, E. Jilinski, & B. Bazzanella. 575, L75 (2002)
- OSCOZ, A. A Large Brightness Enhancement of the QSO 0957+561 A Component. A. Oscoz, D. Alcalde, M. Serra-Ricart, E. Mediavilla, & J. A. Muñoz. 573, L1 (2002)
- See MOTTA, V., et al. Direction of the 2175 Å Extinction Feature at z=0.83. OSTHEIMER, JAMIE. See DINESCU, DANA I., et al. Absolute Proper Motions to $B\sim 22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter.
- OUGHTON, S. Coronal Heating Distribution Due to Low-Frequency, Wave-driven Turbulence. P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)
- PADMANABHAN, T. A Simple Analytical Model for the Abundance of Damped Lyα Absorbers. T. Roy Choudhury & T. Padmanabhan. 574, 59 (2002)
- PADOAN, PAOLO. Scaling Relations of Supersonic Turbulance in Star-forming Molecular Clouds. Stanislav Boldyrev, Åke Nordlund, & Paolo Padoan. 573, 678 (2002)
- PAERELS, FRITS. See KINKHABWALA, ALI, et al. XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068.
- PALAU, AINA. IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)
- PALEN, STACY. Slitless Spectroscopy of Large Magellanic Cloud Planetary Nebulae: A Study of the Emission Lines and Morphology. Letizia Stanghellini, Richard A. Shaw, Max Mutchler, Stacy Palen, Bruce Balick, & J. Chris Blades. 575, 178 (2002)
- PALLADINO, EMILIA. See DE PETRIS, MARCO, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.
- PALLASSINI, R. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- PANCINO, E. Discovery of an Accreted Stellar System within the Globular Cluster ω Centauri. F. R. Ferraro, M. Bellazzini, & E. Pancino. 573, L95 (2002)
- PANDO, JESUS. Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)
- PAPADAKIS, I. E. Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)

- PARIEV, V. I. Magnetorotational Instability in Liquid Metal Couette Flow. K. Noguchi, V. I. Pariev, S. A. Colgate, H. F. Beckley, & J. Nordhaus. 575, 1151 (2002)
- PARK, SANGWOOK. See MICHAEL, ELI, et al. The X-Ray Spectrum of Supernova Remnant 1987A.
- PARK, Y. D. Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
- Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
- PARKE, WILLIAM. Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806—20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)
- PASCUCCI, I. Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Hα 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)
- PASTOR, SERGIO. First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Steen H. Hansen, Sergio Pastor, & Dmitry V. Semikoz. 573, L69 (2002)
- PASTORELLO, A. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- PAULDRACH, A. W. A. The Extinction and Metallicity of Galactic H II Regions from ISO-SWS Observations of Mid-Infrared Fine Structure Lines: Erratum (ApJ, 566, 880 [2002]). Uriel Giveon, Amiel Sternberg, Dieter Lutz, Helmat Fechtgruber, & A. W. A. Pauldrach. 575, 585 (2002) (Orig. paper in 566, 880 (2002))
- PAVLIDUO, VASILIKI. The Guaranteed Gamma-Ray Background. Vasiliki Pavliduo & Brian D. Fields. 575, L5 (2002)
- PAVLOV, G. G. Discovery of Absorption Features in the X-Ray Spectrum of an Isolated Neutron Star. D. Sanwal, G. G. Pavlov, V. E. Zavlin, & M. A. Teter. 574, L61 (2002)
- PEACOCK, J. A. See EVRARD, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- Pearce, F. R. See Evrard, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- PECK, A. B. H I Absorption in the Gigamaser Galaxy TXS 2226—184 and the Relation between H I Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore, 574, 88 (2002)
- PEDICHINI, F. See Dt CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- PEN, UE-LI. The Distance to Clusters: Correcting for Asphericity. David C. Fox & Ue-Li Pen. 574, 38 (2002)
- PENNY, LAURA R. Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)
- Tomographic Separation of Composite Spectra. IX. The Massive Close Binary HD 115071. Laura R. Penny, Douglas R. Gies, John H. Wise, D. J. Stickland, & C. Lloyd. 575, 1050 (2002)
- PENTON, STEVEN V. The Local Lyα Forest: Absorbers in Galaxy Voids. Kevin M. McLin, John T. Stocke, R. J. Weymann, Steven V. Penton, & J. Michael Shull. 574, L115 (2002)
- PERCIVAL, SUSAN M. Resolving the 47 Tucanae Distance Problem. Susan M. Percival, Maurizio Salaris, Francois van Wyk, & David Kilkenny. 573, 174 (2002)
- PÉREZ GARCÍA, A. M. The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)
- PETERSON, B. A. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- PETERSON, BRADLEY M. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy.
- PETERSON, J. D. Interstellar Absorption of the Galactic Polar Low-Frequency Radio Background Synchrotron Spectrum as an Indicator of Clumpiness in the Warm Ionized Medium. J. D. Peterson & W. R. Weber. 575, 217 (2002)

- Petitpas, Glen R. Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)
- PETRIC, A. See CARILLI, C. L., et al. Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944.
- PETRUCCI, P. O. Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)
- Petry, Cathy E. LBQS 0015+0239: A Binary Quasar with Small Angular Separation. Chris D. Impey, Cathy E. Petry, Craig B. Foltz, Paul C. Hewett, & Frederic H. Chaffee. 574, 623 (2002)
- PETRY, D. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- PETTERS, A. O. Gravitational Microlensing near Caustics. I. Folds. *B. Scott Gaudi & A. O. Petters.* 574, 970 (2002)
- PFAHL, ERIC. A Comprehensive Study of Neutron Star Retention in Globular Clusters. Eric Pfahl, Saul Rappaport, & Philipp Podsiadlowski. 573, 283 (2002)
- A New Class of High-Mass X-Ray Binaries for Core Collapse and Neutron Star Recoil. Eric Pfahl, Saul Rappaport, Philipp Podsiadlowski, & Hendrik Spruit. 574, 364 (2002)
- PHELPS, S. D. The Cosmological Action in Redshift Space. S. D. Phelps. 575, 1 (2002)
- PIAN, E. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- PIKE, C. D. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- PINKNEY, JASON. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- PINSONNEAULT, M. H. Stellar Mixing and the Primordial Lithium Abundance. M. H. Pinsonneault, G. Steigman, T. P. Walker, & V. K. Narayanan. 574, 398 (2002)
- PINTO, P. Modified Median Statistics and Type Ia Supernova Data. P. P. Avelino, C. J. A. P. Martins, & P. Pinto. 575, 989 (2002)
- PITTARD, J. M. See MOFFAT, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- PIZZELLA, A. Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)
- PLAYCHAN, P. The Massive Disk around OH 231.8+4.2. M. Jura, C. Chen, & P. Playchan. 574, 936 (2002)
- PODSIADLOWSKI, PHILIPP. A Comprehensive Study of Neutron Star Retention in Globular Clusters. Eric Pfahl, Saul Rappaport, & Philipp Podsiadlowski. 573, 283 (2002)
 - A New Class of High-Mass X-Ray Binaries for Core Collapse and Neutron Star Recoil. Eric Pfahl, Saul Rappaport, Philipp Podsiadlowski, & Hendrik Spruit. 574, 364 (2002)
- Pogrosheva, Tatiana M. A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity. Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)
- POLETTO, G. Two-dimensional Structure of a Polar Coronal Hole at Solar Minimum: New Semiepirical Methodology for Deriving Plasma Parameters. L. Zangrilli, G. Poletto, P. Nicolosi, G. Noci, & M. Romoli. 574, 477 (2002)
- POLI, F. Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)
- POLLOCK, A. M. T. See MOFFAT, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- PONS, JOSÉ A. Hydromagnetic Instabilities in Proto-Neutron Stars. Juan A. Miralles, José A. Pons, & Vadim A. Urpin. 574, 356 (2002)
- PONTIER-JOHNSON, MARIE. New Prescriptions for Growing Interstellar Carbonaceous Cauliflowers. Dieter Heymann & Marie Pontier-Johnson. 574, L91 (2002)
- POOLEY, DAVID. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions. David Pooley, Walter H. G. Lewin, Frank Verbunt, Lee Homer, Bruce Margon, Bryan M. Gaensler, Victoria M. Kaspi, Jon M. Miller, Derek W. Fox, & Michiel van der Klis. 573, 184 (2002)

- A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)
- Popowski, P. See Alcock, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- PORTEGIES ZWART, SIMON F. A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)
- PRATT, M. R. See Alcock, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- PRAVDIVTSEVA, OLGA. Presolar Grains from the Qingzhen (EH3) Meteorite. Yangting Lin, Sachiko Amari, & Olga Pravdivtseva. 575, 257 (2002)
- PRAVDO, STEVEN H. X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- PRESTWICH, A. H. A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies. R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)
- PRICE, P. A. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy. P. A. Price, E. Berger, S. R. Kulkarni, S. G. Djorgovski, D. W. Fox, A. Mahabal, K. Hurley, J. S. Bloom, D. A. Frail, T. J. Galama, F. A. Harrison, G. Morrison, D. E. Reichart, S. A. Yost, R. Sari, T. S. Axelrod, T. Cline, S. Golenetskii, E. Mazets, B. P. Schmidt, & J. Trombka. 573, 85 (2002)
- PRIETO, DAVID L. A Reappraisal of the Solar Photospheric C/O Ratio. Carlos Allende Prieto & David L. Prieto. 573, L137 (2002)
- PRINCE, T. A. Discovery of a Possible Anomolous X-Ray Pulsar in the Small Magellanic Cloud. R. C. Lamb, D. W. Fox, D. J. Macomb, & T. A. Prince. 574, L29 (2002)
- PRINGLE, J. E. The Orientation of Jets Relative to Dust Disks in Radio Galaxies. H. R. Schmitt, J. E. Pringle, C. J. Clarke, & A. L. Kinney. 575, 150 (2002)
- PRUET, JASON. Implications of Neutron Decoupling in Short Gamma-Ray Bursts. Jason Pruet & Neal Dalal. 573, 770 (2002)
- PSALTIS, DIMITRIOS. Radiative Transfer in Obliquely Illuminated Disks.

 *Dimitrios Psaltis. 574, 306 (2002)
- PTAK, A. See MOFFAT, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- PUETTER, R. C. Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995). Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)
- PUN, CHUN S. J. Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)
- QIU, J. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- QUATAERT, ELIOT. A Thermal Bremsstrahlung Model for the Quiescent X-Ray Emission from Sagittarius A*. Eliot Quataert. 575, 855 (2002)
- QUINN, J. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- QUINN, P. J. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- RACHFORD, BRIAN L. Gas-Phase Iron Abundances and Depletions in Translucent Interstellar Lines of Sight from FUSE Observations of Fe II Lines. Theodore P. Snow, Brian L. Rachford, & Laura Figoski. 573, 662 (2002)
- RAGA, A. C. Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)
- RALEY, M. T. A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies. R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)
- RAMIREZ-RUIZ, ENRICO. Cosmological Aspects of Gamma-Ray Bursts: Luminosity Evolution and an Estimate of the Star Formation Rate at High Redshifts. Nicole M. Lloyd-Ronning, Chris L. Fryer, & Enrico Ramirez-Ruiz, 574, 554 (2002)

- RAPPAPORT, SAUL. A Comprehensive Study of Neutron Star Retention in Globular Clusters. Eric Pfahl, Saul Rappaport, & Philipp Podsiadlowski. 573, 283 (2002)
 - A New Class of High-Mass X-Ray Binaries for Core Collapse and Neutron Star Recoil. Eric Pfahl, Saul Rappaport, Philipp Podsiadlowski, & Hendrik Spruit. 574, 364 (2002)
- RAULIN, J.-P. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- RAWLINGS, JONATHAN M. C. Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley. Neal J. Evans II. & Jonathan M. C. Rawlings. 575, 337 (2002)
- RAY, PAUL S. Eclipse Timings of the Low-Mass X-Ray Binary EXO 0748—676. III. Orbital Period Jitter Observed with the Unconventional Stellar Aspect Experiment and the Rossi X-Ray Timing Explorer. Michael T. Wolff, Paul Hertz, Kent S. Wood, Paul S. Ray, & Reba M. Bandyopadhyay. 575, 384 (2002)
- RAYMOND, J. C. Elemental Abundances and Post–Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)
- RAYMOND, JOHN C. Analysis of H₂ Emission from Mira B in Ultraviolet Spectra from the Hubble Space Telescope. Brian E. Wood, Margarita Karovska, & John C. Raymond. 575, 1057 (2002)
- REAMES, D. V. Energetic Particle Abundances as Probes of an Interplanetary Shock Wave. D. V. Reames & A. J. Tylka. 575, L37 (2002)
- REAY, N. W. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- REBECCHI, S. See BURDERI, L., et al. A *BeppoSAX* Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
- REGAN, MICHAEL W. Inner Molecular Rings in Barred Galaxies: BIMA Survey of Nearby Galaxies CO Observations. Michael W. Regan, Kartik Sheth, Peter J. Teuben, & Stuart N. Vogel. 574, 126 (2002)
- REICHART, D. E. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- REINER, M. J. Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon⁻¹. J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner. 573, L59 (2002)
- REIPURTH, Bo. The Highly Collimated HH 92 Jet and Parsec-Scale Outflow from IRAS 05399-0121. John Bally, Bo Reipurth, & Colin Aspin. 574, L79 (2002)
 - Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
- REISER, P. Elemental Abundances and Post–Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)
- REJKUBA, MARINA. K-Band Red Clump Distance to the Large Magellanic Cloud. David R. Alves, Marina Rejkuba, Dante Minniti, & Kem H. Cook. 573, L51 (2002)
 - Extragalactic Globular Cluster Planetary Nebulae: Discovery of a Planetary Nebula in the NGC 5128 Globular Cluster G169 Using the Magellan I Baade Telescope. Dante Minniti & Marina Rejkuba. 575, L59 (2002)
- REPHAELI, YOEL. See De Petris, Marco, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.
 - Cosmic Microwave Background Comptonization by Energetic Nonthermal Electrons in Clusters of Galaxies. *Meir Shimon & Yoel Rephaeli*. 575, 12 (2002)
- Quantification of Uncertainty in the Measurement of Magnetic Fields in Clusters of Galaxies. William I. Newman, Alice L. Newman, & Yoel Rephaeli. 575, 755 (2002)
- RESSLER, M. Spatially Resolved Observations of the Galactic Center Source IRS 21. A. Tanner, A. M. Ghez, M. Morris, E. E. Becklin, A. Cotera, M. Ressler, M. Werner, & P. Wizinowich. 575, 860 (2002)
- RESSLER, M. E. Mid-Infrared Images of the Debris Disk around HD 141569.
 K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
- REYNOLDS, P. T. See Krennrich, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- REYNOSO, E. M. Very Large Array Observations of 6 Centimeter H₂CO in the Direction of Cassiopeia A. E. M. Reynoso & W. M. Goss. 575, 871 (2002)

- REZANIA, V. Normal Modes of Rotating Magnetic Stars. S. M. Morsink & V. Rezania. 574, 908 (2002)
- REZANIA, VAHID. r-Modes in the Ocean of a Magnetic Neutron Star. Vahid Rezania. 574, 899 (2002)
- RHIE, SUN HONG. Simulation of a Space-based Microlensing Survey for Terrestrial Extrasolar Planets. David P. Bennett & Sun Hong Rhie. 574, 985 (2002)
- RHO, JEONGHEE. ROSAT/ASCA Observations of the Mixed-Morphology Supernova Remnant W28. Jeonghee Rho & Kazimierz J. Borkowski. 575, 201 (2002)
- RIBAS, IGNASI. Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- RICH, R. MICHAEL. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
 - See Hansen, Brad M. S., et al. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.
- RICHARDS, GORDON T. An FeLo BAL Binary Quasar. Michael D. Gregg, Robert H. Becker, Richard L. White, Gordon T. Richards, Fred H. Chaffee, & Xiaohui Fan. 573, L85 (2002)
- The Redshift of a Lensing Galaxy in PMN J0134—0931. Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton, David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann. 575, L51 (2002)
- RICHER, HARVEY B. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4. Harvey B. Richer, James Brewer, Gregory G. Fahlman, Brad K. Gibson, Brad M. Hansen, Rodrigo Ibata, Jasonjot S. Kalirai, Marco Limongi, R. Michael Rich, Ivo Saviane, Michael M. Shara, & Peter B. Stetson. 574, L151 (2002)
 - See Hansen, Brad M. S., et al. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.
- RICHSTONE, DOUGLAS. See TREMAINE, SCOTT, et al. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation.
- RICOTTI, MASSIMO. The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 33 (2002)
- The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)
- RITZ, S. Evidence for Postquiescent, High-Energy Emission from Gamma-Ray Burst 990104. D. N. Wren, D. L. Bertsch, & S. Ritz. 574, L47 (2002)
- RIX, HANS-WALTER. PKS 1830—211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)
- ROBBA, N. R. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
- ROBBA, R. N. See CAMPANA, S., et al. An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence.
- ROBINSON, RICHARD D. X-Ray and Optical Variations in the Classical Be Star γ Cassiopeia: The Discovery of a Possible Magnetic Dynamo. *Richard D. Robinson, Myron A. Smith, & Gregory W. Henry.* 575, 435 (2002)
- ROCHE, PAUL. The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657–415. Deepto Chakrabarty, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)
- RODGERS, A. W. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- RODNEY, STEVEN A. Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding, 575, 779 (2002)
- RODRÍGUEZ, LUIS F. VLA Observations of H i in the Helix Nebula (NGC 7293). Luis F. Rodríguez, W. M. Goss, & Robert Williams. 574, 179 (2002)
- RODRÍGUEZ ESPINOSA, J. M. The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)
- RODRÍGUEZ-FRANCO, A. On the Heating Source of the Orion KL Hot Core. P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco. 574, L163 (2002)
- ROMOLI, M. Two-dimensional Structure of a Polar Coronal Hole at Solar Minimum: New Semiepirical Methodology for Deriving Plasma

- Parameters. L. Zangrilli, G. Poletto, P. Nicolosi, G. Noci, & M. Romoli. 574, 477 (2002)
- ROSE, H. J. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- ROSNER, R. On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)
- ROVIRA, M. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- Roy, A. L. Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)
- RUDNICK, L. Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)
- RUDY, RICHARD J. Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995). Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)
- RUST, DAVID M. Statistics, Morphology, and Energetics of Ellerman Bombs. Manolis K. Georgoulis, David M. Rust, Pietro N. Bernasconi, & Brigitte Schmieder. 575, 506 (2002)
- RUSZKOWSKI, MATEUSZ. Circular Polarization from Stochastic Synchrotron Sources. Mateusz Ruszkowski & Mitchell C. Begelman. 573, 485 (2002)
- RYABCHIKOVA, TANYA A. The Variability of the Hg II λ3984 Line of the Mercury-Manganese Star α Andromedae. Saul J. Adelman, Austin F. Gulliver, Oleg P. Kochukhov, & Tanya A. Ryabchikova. 575, 449 (2002)
- RYU, KWANG-SUN. See LEE, DAE-HEE, et al. *ORFEUS* Observations of the Foreground Gas toward HD 37903.
- SADAKANE, KOZO. See TAKADA-HIDAI, MASAHIDE, et al. Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs.
- SAFI-HARB, SAMAR. Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806—20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)
- SAGIV, AMIR. Collective Processes in Relativistic Plasma and Their Implications for Gamma-Ray Burst Afterglows. Amir Sagiv & Eli Waxman. 574, 861 (2002)
- SAHAI, R. Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)
- SAITO, YOSHIHIKO. Chemodynamic Evolution of Globular Cluster Systems. Yoshihiko Saito & Masanori Iye. 573, 122 (2002)
- SAKO, MASAO. See KINKHABWALA, ALI, et al. XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068.
- SAKURAI, T. The Sources of Magnetic Field Twist in Solar Active Regions. S. D. Bao, T. Sakurai, & Y. Suematsu. 573, 445 (2002)
- SALARIS, M. Measuring ${}^{12}C(\alpha, \gamma){}^{16}O$ from White Dwarf Asteroseimology. T. S. Metcalfe, M. Salaris, & D. E. Winget. 573, 803 (2002)
- SALARIS, MAURIZIO. Resolving the 47 Tucanae Distance Problem. Susan M. Percival, Maurizio Salaris, Francois van Wyk, & David Kilkenny. 573, 174 (2002).
- SALIM, SAMIR. Astrometry Survey Missions beyond the Magnitude Limit. Samir Salim, Andrew Gould, & Rob P. Olling. 573, 631 (2002)
- Classifying Luyten Stars Using an Optical-Infrared Reduced Proper-Motion Diagram. Samir Salim & Andrew Gould. 575, L83 (2002)
- SAMBRUNA, R. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- SAMBRUNA, RITA M. X-Ray Spectra of Intermediate-Luminosity, Radio-loud Quasars. Christina A. Hasenkopf, Rita M. Sambruna, & Michael Eracleous. 575, 127 (2002)
- SÁNCHEZ CONTRERAS, C. ¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)
- SAND, DAVID J. The Dark Matter Profile of the Lensing Cluster MS 2137–23: A Test of the Cold Dark Matter Paradigm. David J. Sand, Tommaso Treu, & Richard S. Ellis. 574, L129 (2002)
- SANDAGE, ALLAN. See DINESCU, DANA I., et al. Absolute Proper Motions to $B\sim22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter.

- SANWAL, D. Discovery of Absorption Features in the X-Ray Spectrum of an Isolated Neutron Star. D. Sanwal, G. G. Pavlov, V. E. Zavlin, & M. A. Teter. 574, L61 (2002)
- SARAZIN, CRAIG L. Hot Bubbles in Cooling Flow Clusters. Noam Soker, Elizabeth L. Blanton, & Craig L. Sarazin. 573, 533 (2002)
 - Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)
- SARGENT, WALLACE L. W. See TAKADA-HIDAI, MASAHIDE, et al. Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs.
- SARI, R. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- SARZI, M. Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)
- SATO, SHIZUKA. See TAKADA-HIDAI, MASAHIDE, et al. Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs.
- SATO, SHUJI. Near-Infrared and CO (J = 1–0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002)
- SAVIANE, IVO. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
- SCANNAPIECO, EVAN. Early Enrichment of the Intergalactic Medium and Its Feedback on Galaxy Formation. Evan Scannapieco, Andrea Ferrara, & Piero Madau. 574, 590 (2002)
- SCARLATA, C. Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)
- SCHARTEL, N. Discovery of an Ionized Fe K Edge in the z = 3.91 Broad Absorption Line Quasar APM 08279+5255 with XMM-Newton. G. Hasinger, N. Schartel, & S. Komossa. 573, L77 (2002)
- SCHAYE, JOOP. Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L111 (2002)
- SCHINNERER, EVA. Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303. Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A. Moustakas. 575, 826 (2002)
- SCHLEGEL, DAVID J. The Redshift of a Lensing Galaxy in PMN J0134-0931.
 Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton, David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann. 575, L51 (2002)
- SCHLICKEISER, REINHARD. Transformation Properties of External Radiation Fields, Energy-Loss Rates and Scattered Spectra, and a Model for Blazar Variability. Charles D. Dermer & Reinhard Schlickeiser. 575, 667 (2002)
- SCHMIDT, B. P. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- SCHMIEDER, B. See GIBSON, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- SCHMIEDER, BRIGITTE. Statistics, Morphology, and Energetics of Ellerman Bombs. Manolis K. Georgoulis, David M. Rust, Pietro N. Bernasconi, & Brigitte Schmieder. 575, 506 (2002)
- SCHMITT, H. R. The Orientation of Jets Relative to Dust Disks in Radio Galaxies. H. R. Schmitt, J. E. Pringle, C. J. Clarke, & A. L. Kinney. 575, 150 (2002)
- SCHNEIDER, DONALD P. The Redshift of a Lensing Galaxy in PMN J0134-0931.
 Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton,
 David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann.
 575, L51 (2002)
- SCHULTZ, A. S. B. Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)
- SCHULZ, NORBERT S. Using the High-Resolution X-Ray Spectrum of PSR B0656+14 to Constrain the Chemical Composition of the Neutron Star Atmosphere. Herman L. Marshall & Norbert S. Schulz. 574, 377 (2002)
- SCOVILLE, NICK. Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)

- Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303. Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A. Moustakas. 575, 826 (2002)
- SEAGER, S. Constraining the Rotation Rate of Transiting Extrasolar Planets by Oblateness Measurements. S. Seager & Lam Hui. 574, 1004 (2002)
- SEAQUIST, E. R. Discovery of High-Latitude CO in an H | Supershell in NGC 5775. S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)
- SEMBAY, S. Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)
- SEMBROSKI, G. H. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- SEMENOV, D. Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Hα 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)
- SEMIKOZ, DMITRY V. First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Steen H. Hansen, Sergio Pastor, & Dmitry V. Semikoz. 573, L69 (2002)
- SEPINSKY, JEREMY F. Hubble Space Telescope Spectroscopy of the Dwarf Nova RX Andromedae during Outbust Rise and Decline. Jeremy F. Sepinsky, Edward M. Sion, Paula Szkody, & Boris T. Gänsicke. 574, 937 (2002)
- SERRA-RICART, M. A Large Brightness Enhancement of the QSO 0957+561 A Component. A. Oscoz, D. Alcalde, M. Serra-Ricart, E. Mediavilla, & J. A. Muñoz. 573, L1 (2002)
- See MOTTA, V., et al. Direction of the 2175 A Extinction Feature at z = 0.83.
 SETO, NAOKI. Parameter Estimation for Galactic Binaries by the Laser Interferometer Space Antenna. Ryuichi Takahashi & Naoki Seto. 575, 1030 (2002)
- SHADMEHRI, MOHSEN. Cooling Flows of Self-gravitating, Rotating, Viscous Systems. Mohsen Shadmehri & Jamshid Ghanbari. 574, 198 (2002)
- SHARA, MICHAEL M. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
- See HANSEN, BRAD M. S., et al. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.
- SHARE, GERALD H. Directionality of Solar Flare-accelerated Protons and α-Particles from γ-Ray Line Measurements. Gerald H. Share, Ronald J. Murphy, Jürgen Kiener, & Nicolas de Séréville. 573, 464 (2002)
- SHARPLES, R. M. The Luminosity Functions and Stellar Masses of Galactic Disks and Speroids. A. J. Benson, C. S. Frenk, & R. M. Sharples. 574, 104 (2002)
- SHAW, RICHARD A. Slitless Spectroscopy of Large Magellanic Cloud Planetary Nebulae: A Study of the Emission Lines and Morphology. Letizia Stanghellini, Richard A. Shaw, Max Mutchler, Stacy Palen, Bruce Balick, & J. Chris Blades. 575, 178 (2002)
- SHEELEY, N. R., JR. Coronal White-Light Jets near Sunspot Maximum. Y. M. Wang & N. R. Sheeley, Jr. 575, 542 (2002)
- SHEFFER, YARON. Ultraviolet Detection of Interstellar ¹²C¹⁷O and the CO Isotopomeric Rations toward X Persei. Yaron Sheffer, David L. Lambert, & S. R. Federman. 574, L171 (2002)
- SHETH, KARTIK. Inner Molecular Rings in Barred Galaxies: BIMA Survey of Nearby Galaxies CO Observations. Michael W. Regan, Kartik Sheth, Peter J. Teuben, & Stuart N. Vogel. 574, 126 (2002)
- SHETH, RAVI K. Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L111 (2002)
- SHIELDS, JOSEPH C. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond *Chandra* Grating Spectroscopy.
- SHIMIZU, T. Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photospheric/Chromospheric Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- Converging Flows in the Penumbra of a δ Sunspot. B. W. Lites, H. Socas-Navarro, A. Skumanich, & T. Shimizu. 575, 1131 (2002)
- SHIMON, MEIR. Cosmic Microwave Background Comptonization by Energetic Nonthermal Electrons in Clusters of Galaxies. Meir Shimon & Yoel Rephaeli. 575, 12 (2002)
- SHINE, R. A. Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photo-

- spheric/Chromospheric Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- SHIOYA, YASUHIRO. Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. Tohru Nagao, Takashi Murayama, Yasuhiro Shioya, & Yoshiaki Taniguchi. 575, 721 (2002)
- SHIRLEY, YANCY L. Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)
- SHLOSMAN, ISAAC. Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- SHULL, J. MICHAEL. The Local Lyα Forest: Absorbers in Galaxy Voids. Kevin M. McLin, John T. Stocke, R. J. Weymann, Steven V. Penton, & J. Michael Shull. 574, L115 (2002)
 - The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. *Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull.* 575, 33 (2002)
- The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)
- SIDWELL, R. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- SIEGEL, MICHAEL H. See DINESCU, DANA I., et al. Absolute Proper Motions to $B\sim22.5.\,$ V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter.
- SIGNORE, MONIQUE. See DE PETRIS, MARCO, et al. MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies.
- SILICH, S. A. 12CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)
- SILVA, A. V. R. See KAUFMANN, P., et al. Solar Submillimeter and Gamma-Ray Burst Emission.
- SILVERSTONE, M. D. Mid-Infrared Images of the Debris Disk around HD 141569. K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
- SIMON, JOSHUA D. The Absence of Stars in Compact High-Velocity Clouds. Joshua D. Simon & Leo Blitz. 574, 726 (2002)
- SIMPSON, JANET P. Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)
- SION, EDWARD M. Hubble Space Telescope Spectroscopy of the Dwarf Nova RX Andromedae during Outbust Rise and Decline. Jeremy F. Sepinsky, Edward M. Sion, Paula Szkody, & Boris T. Gänsicke. 574, 937 (2002)
 - Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)
- Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. G\u00e4nsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)
- Hubble Space Telescope Spectra of GW Librae: A Hot Pulsating White Dwarf in a Cataclysmic Variable. Paula Szkody, Boris T. Gänsicke, Steve B. Howell, & Edward M. Sion. 575, L79 (2002)
- SKALKOWSKI, G. See MOFFAT, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- SKUMANICH, A. Converging Flows in the Penumbra of a δ Sunspot. B. W. Lites, H. Socas-Navarro, A. Skumanich, & T. Shimizu. 575, 1131 (2002)
- SLEE, O. B. Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)
- SLOCUM, P. L. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- SMAIL, I. Optically Faint Counterparts to the Infrared Space Observatory FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- SMITH, MYRON A. X-Ray and Optical Variations in the Classical Be Star γ Cassiopeia: The Discovery of a Possible Magnetic Dynamo. Richard D. Robinson, Myron A. Smith, & Gregory W. Henry. 575, 435 (2002)

- SMITH, P. S. The Spectrum of Earthshine: A Pale Blue Dot Observed from the Ground. N. J. Woolf, P. S. Smith, W. A. Traub, & K. W. Jucks. 574, 430 (2002)
- SMITH, V. V. Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)
- SNOW, THEODORE P. Gas-Phase Iron Abundances and Depletions in Translucent Interstellar Lines of Sight from FUSE Observations of Fe II Lines. Theodore P. Snow, Brian L. Rachford, & Laura Figoski. 573, 662 (2002)
- Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)
- SNOWDEN, S. L. See TURNER, T. J., et al. Narrow Components within the Fe $K\alpha$ Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects.
- SOCAS-NAVARRO, H. Converging Flows in the Penumbra of a δ Sunspot. B. W. Lites, H. Socas-Navarro, A. Skumanich, & T. Shimizu. 575, 1131 (2002)
- Sofue, Y. Nobeyama Millimeter Array CO (*J* = 1–0) Observations of the Hα Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. *J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin.* 573, 105 (2002)
- SOKER, NOAM. Hot Bubbles in Cooling Flow Clusters. Noam Soker, Elizabeth L. Blanton, & Craig L. Sarazin. 573, 533 (2002)
- SOLANKI, S. K. Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- SOMMERVILLE, RACHEL S. ALCDM-based Models for the Milky Way and M31. I. Dymanical Models. Anatoly Klypin, HongShen Zhao, & Rachel S. Sommerville. 573, 597 (2002)
- SONNENTRUCKER, PAULE. Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)
- SPEZIALI, R. See Di CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- SPRUIT, HENDRIK. A New Class of High-Mass X-Ray Binaries for Core Collapse and Neutron Star Recoil. Eric Pfahl, Saul Rappaport, Philipp Podsiadlowski, & Hendrik Spruit. 574, 364 (2002)
- STAGGS, S. T. New Limits on the Polarized Anisotrophy of the Cosmic Microwave Background at Subdegree Angular Scales. M. M. Hedman, D. Barkats, J. O. Gundersen, J. J. McMahon, S. T. Staggs, & B. Winstein. 573, L73 (2002)
- STANGHELLINI, LETIZIA. Slitless Spectroscopy of Large Magellanic Cloud Planetary Nebulae: A Study of the Emission Lines and Morphology. Letizia Stanghellini, Richard A. Shaw, Max Mutchler, Stacy Palen, Bruce Balick, & J. Chris Blades. 575, 178 (2002)
- STANTON, N. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- STECKLUM, B. Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Ha 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)
- STEIGMAN, G. Stellar Mixing and the Primordial Lithium Abundance. M. H. Pinsonneault, G. Steigman, T. P. Walker, & V. K. Narayanan. 574, 398 (2002)
- STELLA, L. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
 - See Campana, S., et al. An *XMM-Newton* Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence.
- STERN, B. E. The Decline of the Source Population of Gamma-Ray Bursts and Their Luminosity Function. B. E. Stern, Ya. Tikhomirova, & R. Svensson. 573, 75 (2002)
- STERNBERG, AMIEL. The Extinction and Metallicity of Galactic H II Regions from ISO-SWS Observations of Mid-Infrared Fine Structure Lines: Erratum (ApJ, 566, 880 [2002]). Uriel Giveon, Amiel Sternberg, Dieter Lutz, Helmut Fechtgruber, & A. W. A. Pauldrach. 575, 585 (2002) (Orig. paper in 566, 880 (2002))
- STERZIK, M. F. Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Ha 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)

- STETSON, PETER B. See RICHER, HARVEY B., et al. The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4.
 - See Hansen, Brad M. S., et al. The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.
- STEVENS, I. R. See MOFFAT, A. F. J., et al. Galactic Starburst NGC 3603 from X-Rays to Radio.
- STIAVELLI, M. Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)
- STICKLAND, D. J. Tomographic Separation of Composite Spectra. IX. The Massive Close Binary HD 115071. Laura R. Penny, Douglas R. Gies, John H. Wise, D. J. Stickland, & C. Lloyd. 575, 1050 (2002)
- STOCKE, JOHN T. Chandra Observations of Abell 2029: No Cooling Flow and a Steep Abundance Gradient. Aaron D. Lewis, John T. Stocke, & David A. Buote. 573, L13 (2002)
- The Local Lyα Forest: Absorbers in Galaxy Voids. Kevin M. McLin, John T. Stocke, R. J. Weymann, Steven V. Penton, & J. Michael Shull. 574, L115 (2002)
- STONE, E. C. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares.
- STROHMAYER, T. E. Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)
- Subasavage, John P. See Dinescu, Dana I., et al. Absolute Proper Motions to $B\sim 22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter.
- SUBBARAO, MARK. Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574. L111 (2002)
- SUDARSKY, D. Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)
- SUEMATSU, Y. The Sources of Magnetic Field Twist in Solar Active Regions. S. D. Bao, T. Sakurai, & Y. Suematsu. 573, 445 (2002)
- SULEIMANOV, VALERY. Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)
- SUNTZEFF, N. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- SUTHERLAND, W. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- SUTO, YASUSHI. Triaxial Modeling of Halo Density Profiles with High-Resolution N-Body Simulations. Y. P. Jing & Yasushi Suto. 574, 538 (2002)
- SUZUKI, TAKERU KEN. Cosmic-Ray Production of ⁶Li by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation. *Takeru Ken Suzuki & Susumu Inoue*. 573, 168 (2002)
- SVENSSON, R. The Decline of the Source Population of Gamma-Ray Bursts and Their Luminosity Function. B. E. Stern, Ya. Tikhomirova, & R. Svensson. 573, 75 (2002)
- SWANK, J. H. Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)
- SWANK, JEAN H. Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806—20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)
- SWARTZ, DOUGLAS A. Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)
- SWORDY, S. P. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- SZALAY, ALEXANDER S. Cosmological Parameters from Redshift-Space Correlations. Takahiko Matsubara & Alexander S. Szalay. 574, 1 (2002)
- SZKODY, PAULA. Hubble Space Telescope Spectroscopy of the Dwarf Nova RX Andromedae during Outbust Rise and Decline. Jeremy F. Sepinsky, Edward M. Sion, Paula Szkody, & Boris T. Gänsicke. 574, 937 (2002)

- Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)
- Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. G\u00e4nsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)
- Hubble Space Telescope Spectra of GW Librae: A Hot Pulsating White Dwarf in a Cataclysmic Variable. Paula Szkody, Boris T. Gänsicke, Steve B. Howell, & Edward M. Sion. 575, L79 (2002)
- TAAM, RONALD E. The Effect of the Dissipative Corona on the Structure and Stability of Cold Optically Thick Accretion Disks at High Accretion Rates. Ranjeev Misra & Ronald E. Taam. 573, 764 (2002)
- TACCONI, L. Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)
- TACHIHARA, KENGO. A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)
- TAGLIAFERRI, G. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- TAKADA-HIDAI, MASAHIDE. Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs. Masahide Takada-Hidai, Yoichi Takeda, Shizuka Sato, Satoshi Honda, Kozo Sadakane, Satoshi Kawanomoto, Wallace L. W. Sargent, Limin Lu, & Thomas A. Barlow. 573, 614 (2002)
- TAKAGI, SHIN-ICHIRO. X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with Chandra. Shin-ichiro Takagi, Hiroshi Murakami. & Katsuji Kovama. 573, 275 (2002)
- TAKAHASHI, RYUICHI. Parameter Estimation for Galactic Binaries by the Laser Interferometer Space Antenna. Ryuichi Takahashi & Naoki Seto. 575, 1030 (2002)
- TAKEDA, YOICHI. See TAKADA-HIDAI, MASAHIDE, et al. Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs.
- TALON, SUZANNE. Angular Momentum Exraction by Gravity Waves in the Sun. Suzanne Talon, Pawan Kumar, & Jean-Paul Zahn. 574, L175 (2002)
- TANIGUCHI, YOSHIAKI. Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. Tohru Nagao, Takashi Murayama, Yasuhiro Shioya, & Yoshiaki Taniguchi. 575, 721 (2002)
- TANNER, A. Spatially Resolved Observations of the Galactic Center Source IRS 21. A. Tanner, A. M. Ghez, M. Morris, E. E. Becklin, A. Cotera, M. Ressler, M. Werner, & P. Wizinowich. 575, 860 (2002)
- TARBELL, T. D. Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. 1. Identifications of Associated Photospheric/Chromospheric Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- TATEYAMA, C. E. Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)
- TAVECCHIO, F. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002)
- TAYLOR, G. B. H I Absorption in the Gigamaser Galaxy TXS 2226–184 and the Relation between H I Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
- TENNANT, ALLYN F. Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)
- TERADA, HIROSHI. Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokumaga. 573, 270 (2002)
- TERASHIMA, Y. Extreme X-Ray Iron Lines in Active Galactic Nuclei. N. A. Levenson, J. H. Krolik, P. T. Zycki, T. M. Heckman, K. A. Weaver, H. Awaki, & Y. Terashima. 573, L81 (2002)
- Terashima, Yuichi. X-Ray Emission from the Type Ic Supernova 1994I Observed with *Chandra*. Stefan Immler, Andrew S. Wilson, & Yuichi Terashima. 573, L27 (2002)

- TETER, M. A. Discovery of Absorption Features in the X-Ray Spectrum of an Isolated Neutron Star. D. Sanwal, G. G. Pavlov, V. E. Zavlin, & M. A. Teter. 574, L61 (2002)
- Teuben, Peter J. Inner Molecular Rings in Barred Galaxies: BIMA Survey of Nearby Galaxies CO Observations. *Michael W. Regan, Kartik Sheth, Peter J. Teuben, & Stuart N. Vogel.* 574, 126 (2002)
- THEUNS, TOM. Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. *Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao.* 574, L111 (2002)
- THOMAS, P. A. See EVRARD, A. E., et al. Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations.
- THOMPSON, B. J. Interaction of EIT Waves with Coronal Active Regions. L. Ofman & B. J. Thompson, 574, 440 (2002)
 - See Gibson, S. E., et al. The Structure and Evolution of a Sigmoidal Active Region.
- THOMPSON, C. Electrodynamics of Magnetars: Implications for the Persistent X-Ray Emission and Spin-down of the Soft Gamma Repeaters and Anomalous X-Ray Pulsars. C. Thompson, M. Lyutikov, & S. R. Kulkarni. 574, 332 (2002)
- THOMPSON, MICHAEL J. Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)
- THORBURN, JULIE. Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)
- THORSETT, S. E. Decapitating the Duck: The (Non)Association of PSR B1757–24 and Supernova Remnant G5.4–1.2. S. E. Thorsett, W. F. Brisken, & W. M. Goss. 573, L111 (2002)
- TIELENS, A. G. G. M. Molecular Hydrogen Formation in the Interstellar Medium. S. Cazaux & A. G. G. M. Tielens. 575, L29 (2002)
- TIKHOMIROVA, YA. The Decline of the Source Population of Gamma-Ray Bursts and Their Luminosity Function. B. E. Stern, Ya. Tikhomirova, & R. Svensson. 573, 75 (2002)
- TINGAY, S. Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)
- TINKER, JEREMY L. Do Distinct Cosmological Models Predict Degenerate Halo Populations? Zheng Zheng, Jeremy L. Tinker, David H. Weinberg, & Andreas A. Berlind. 575, 617 (2002)
- TITLE, A. M. Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photospheric/Chromospheric Activities. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- TOKUNAGA, A. T. Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokumaga. 573, 270 (2002)
- TOMISAKA, KOHJI. Collapse of Rotating Magnetized Molecular Cloud Cores and Mass Outflows. Kohji Tomisaka. 575, 306 (2002)
- TOMSICK, J. A. Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8—2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)
- TORNAMBÉ, A. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- TORSTI, J. Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon ⁻¹. *J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner.* 573, L59 (2002)
- TOWNSLEY, LEISA. X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
 - Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
- TRAMMELL, SUSAN R. Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)
- TRAUB, W. A. The Spectrum of Earthshine: A Pale Blue Dot Observed from the Ground. N. J. Woolf, P. S. Smith, W. A. Traub, & K. W. Jucks. 574, 430 (2002)

- TREMAINE, SCOTT. The Slope of the Black Hole Mass versus Velocity Dispersion Correlation. Scott Tremaine, Karl Gebhardt, Ralf Bender, Gary Bower, Alan Dressler, S. M. Faber, Alexei V. Filippenko, Richard Green, Carl Grillmair, Luis C. Ho, John Kormendy, Tod R. Lauer, John Magorrian, Jason Pinkney, & Douglas Richstone. 574, 740 (2002)
- TREU, TOMMASO. The Dark Matter Profile of the Lensing Cluster MS 2137—23: A Test of the Cold Dark Matter Paradigm. David J. Sand, Tommaso Treu, & Richard S. Ellis. 574, L129 (2002)
- The Internal Structure and Formation of Early-Type Galaxies: The Gravitational Lens System MG 2016+112 at z = 1.004. *Tommaso Treu & Leon V. E. Koopmans.* 575, 87 (2002)
- TREVES, A. See TAVECCHIO, F., et al. Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX.
- TRIPP, T. M. Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)
- The Heavy-Element Enrichment of Lyα Clouds in the Virgo Supercluster. T. M. Tripp, E. B. Jenkins, G. M. Williger, S. R. Heap, C. W. Bowers, A. C. Danks, R. Davé, R. F. Green, T. R. Gull, C. L. Joseph, M. E. Kaiser, D. Lindler, R. J. Weymann, & B. E. Woodgate. 575, 697 (2002)
- TROMBKA, J. See PRICE, P. A., et al. The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy.
- TRUJILLO, İ. A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa. 573, L9 (2002)
- TRUJILLO BUENO, JAVIER. On the Atomic Polarization of the Ground Level of Na 1. Roberto Casini, Egidio Landi Degl'Innocenti, Marco Landolfi, & Javier Trujillo Bueno. 573, 864 (2002)
- TRURAN, JAMES W. A Simple Model for r-Process Scatter and Halo Evolution. Brian D. Fields, James W. Truran, & John J. Cowan. 575, 845 (2002)
- TSUBOI, YOHKO. Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokumaga. 573, 270 (2002)
- X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- TSUJI, TAKASHI. Dust in the Photospheric Environment: Unified Cloudy Models of M, L, and T Dwarfs. Takashi Tsuji. 575, 264 (2002)
- TSUJIMOTO, MASAHIRO. Deep Near-Infrared Observations of the X-Rayemitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)
- TURATTO, M. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- Turcotte, S. Mixing and Accretion in a λ Bootis Stars. S. Turcotte. 573, L129 (2002)
- TURNER, EDWIN L. Cosmological Microlensing Statistics: Variability Rates for Quasars and Gamma-Ray Burst Afterglows and Implications for Macrolensing Magnification Bias and Flux Ratios. J. S. B. Wyithe & Edwin L. Turner. 575, 650 (2002)
- TURNER, M. J. L. Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)
- TURNER, T. J. See KASPI, SHAI, et al. The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy.
- Narrow Components within the Fe Kα Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects. T. J. Turner, R. F. Mushotzky, T. Yaqoob, I. M. George, S. L. Snowden, H. Netzer, S. B. Kraemer, K. Nandra, & D. Chelouche. 574, L123 (2002)
- TUROLLA, ROBERTO. Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806—20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)
- TYLKA, A. J. Energetic Particle Abundances as Probes of an Interplanetary Shock Wave. D. V. Reames & A. J. Tylka. 575, L37 (2002)
- TYTLER, DAVID. The Cosmological Density and Ionization of Hot Gas: O VI Absorption in Quasar Spectra: Erratum (ApJ, 460, 584 [1996]). Scott

- Burles & David Tytler. 573, 471 (2002) (Orig. paper in 460, 584, 80-E4 (1996))
- Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)
- UDALSKI, ANDRZEJ. Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- ULMSCHNEIDER, P. On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)
- UMEBAYASHI, TOYOHARU. Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)
- UMEMURA, MASAYUKI. Does the Slim-Disk Model Correctly Consider Photon-trapping Effects? Ken Ohsuga, Shin Mineshige, Masao Mori, & Masayuki Umemura. 574, 315 (2002)
- URPIN, VADIM A. Hydromagnetic Instabilities in Proto-Neutron Stars. Juan A. Miralles, José A. Pons, & Vadim A. Urpin. 574, 356 (2002)
- USERO, A. Widespread HCO Emission in the Nuclear Starburst of M82.
 S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)
- UTTLEY, P. Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)
- UYANIKER, B. A Highly Ordered Faraday Rotation Structure in the Interstellar Medium. B. Uyaniker & T. L. Landecker. 575, 225 (2002)
- UYANIKER, BÜLENT. A Large Atomic Hydrogen Shell in the Outer Galaxy: Supernova Remnant or Stellar Wind Bubble? Bülent Uyaniker & Roland Kothes. 574, 805 (2002)
- UZDENSKY, DMITRI A. Shear-driven Field-Line Opening and the Loss of a Force-free Magnetostatic Equilibrium. *Dmitri A. Uzdensky*. 574, 1011 (2002)
- VALENTINI, G. See DI CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- VAN BALLEGOOIJEN, A. A. The Coronal Topology of the Rapidly Rotating K0 Dwarf AB Doradus. I. Using Surface Magnetic Field Maps to Model the Structure of the Stellar Corona. G. A. J. Hussain, A. A. van Ballegooijen, M. Jardine, & A. Collier Cameron. 575, 1078 (2002)
- VANDEHEI, T. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- VAN DER KLIS, M. See BURDERI, L., et al. A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star.
- VAN DER KLIS, MICHIEL. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions.
- XMM-Newton Observations of the Neutron Star X-Ray Transient KS 1731–260 in Quiescence. Rudy Wijnands, Matteo Guainazzi, Michiel van der Klis, & Mariano Méndez. 573, L45 (2002)
- VANHALA, HARRI A. T. Injection of Radioactivities into the Forming Solar System. Harri A. T. Vanhala & Alan P. Boss. 575, 1144 (2002)
- VAN PUTTEN, MAURICE H. P. M. LIGO/VIRGO Searches for Gravitational Radiation in Hypernovae. Maurice H. P. M. van Putten. 575, L71 (2002)
- VAN STRATEN, W. The Scintillation Velocity of the Relativistic Binary Pulsar PSR J1141-6545. S. M. Ord, M. Bailes, & W. van Straten. 574, L75 (2002)
- VAN WAERBEKE, LUDOVIC. Completeness in Weak-Lensing Searches for Clusters. Martin White, Ludovic van Waerbeke, & Jonathan Mackey. 575, 640 (2002)
- VAN WYK, FRANCOIS. Resolving the 47 Tucanae Distance Problem. Susan M. Percival, Maurizio Salaris, Francois van Wyk, & David Kilkenny. 573, 174 (2002)
- VASCONCELOS, M. J. The Role of Damped Alfvén Waves in Magnetospheric Accretion Models of Young Stars. M. J. Vasconcelos, V. Jatenco-Pereira, & R. Opher. 574, 847 (2002)
- VASSILIEV, V. V. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.

- VEGA, O. See Di CARLO, E., et al. Optical and Infrared Observations of the Supernova SN 1999el.
- VELÁZQUEZ, P. F. Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)
- VENKATAKRISHNAN, P. On Magnetic Flux Imbalance in Solar Active Regions. Debi Prasad Choudhary, P. Venkatakrishnan, & Sanjay Gosain. 573, 851 (2002)
- VENN, K. A. Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)
- VENTURINI, CATHERINE C. Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995). Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)
- VERBUNT, FRANK. See POOLEY, DAVID, et al. Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions.
- VLAHOS, LOUKAS. Statistical Properties of the Energy Release in Emerging and Evolving Active Regions. Loukas Vlahos, Tassos Fragos, Heinz Isliker, & Manolis Georgoulis. 575, L87 (2002)
- VOGEL, STUART N. Inner Molecular Rings in Barred Galaxies: BIMA Survey of Nearby Galaxies CO Observations. Michael W. Regan, Kartik Sheth, Peter J. Teuben, & Stuart N. Vogel. 574, 126 (2002)
- VOLK, KEVIN. Subarcsecond Mid-Infrared Imaging of Two Post–Asymptotic Giant Branch 21 Micron Sources. Sun Kwok, Kevin Volk, & Bruce J. Hrivnak. 573, 720 (2002)
- VON ROSENVINGE, T. T. See MASON, G. M., et al. Spectral Properties of He and Heavy Ions in $^3{\rm He}{
 m -rich}$ Solar Flares.
- WAKELY, S. P. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- WALKER, T. P. Stellar Mixing and the Primordial Lithium Abundance. M. H. Pinsonneault, G. Steigman, T. P. Walker, & V. K. Narayanan. 574, 398 (2002)
- WALSH, J. R. High-Resolution CO and H₂ Molecular Line Imaging of a Cometary Globule in the Helix Nebula. P. J. Huggins, T. Forveille, R. Bachiller, P. Cox, N. Ageorges, & J. R. Walsh. 573, L55 (2002)
- WANG, C. B. Generation of Type III Solar Radio Bursts in the Low Corona by Direct Amplification. C. S. Wu, C. B. Wang, Peter H. Yoon, H. N. Zheng, & S. Wang, 575, 1094 (2002)
- WANG, CHIH-YUEH. Bullets in a Core-Collapse Supernova Remnant: The Vela Remnant. Chih-Yueh Wang & Roger A. Chevalier. 574, 155 (2002)
- WANG, HAIMIN. Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
- Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
- WANG, JUN-JIE. A Metal-poor Compact H II Region with a Small, Isolated, and Dense Young Stellar Cluster. Jun-Jie Wang, Jian-Yan Wei, & Jing-Yao Hu. 573, 238 (2002)
- WANG, S. Generation of Type III Solar Radio Bursts in the Low Corona by Direct Amplification. C. S. Wu, C. B. Wang, Peter H. Yoon, H. N. Zheng, & S. Wang. 575, 1094 (2002)
- WANG, TONGJIANG. Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- WANG, Y. M. Coronal White-Light Jets near Sunspot Maximum. Y. M. Wang & N. R. Sheeley, Jr. 575, 542 (2002)
- WANG, YUN. Model-independent Primordial Power Spectrum from MAXIMA, BOOMERANG, and DASI Data. Yun Wang & Grant J. Mathews. 573, 1 (2002)
- WANG, ZHONGXIANG. The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657–415. Deepto Chakrabarty, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)
- WARREN, MICHAEL S. Modeling Core-Collapse Supernovae in Three Dimensions. Chris L. Fryer & Michael S. Warren. 574, L65 (2002)
- WARREN, S. J. Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)

WATANABE, JUN-ICHI. Unidentified Bands in Comet Ikeya-Zhang (C/2002 C1): The Correlation between Unidentified Bands and H₂⁺. Hideyo Kawakita & Jun-ichi Watanabe. 574, L183 (2002)

WATSON, D. Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)

WAXMAN, E. Neutrino Flux Predictions for Known Galactic Microquasars. C. Distefano, D. Guetta, E. Waxman, & A. Levinson. 575, 378 (2002)

- WAXMAN, ELI. Collective Processes in Relativistic Plasma and Their Implications for Gamma-Ray Burst Afterglows. Amir Sagiv & Eli Waxman. 574, 861 (2002)
- WEAVER, K. A. Extreme X-Ray Iron Lines in Active Galactic Nuclei. N. A. Levenson, J. H. Krolik, P. T. Zycki, T. M. Heckman, K. A. Weaver, H. Awaki, & Y. Terashima. 573, L81 (2002)
- WEBER, W. R. Interstellar Absorption of the Galactic Polar Low-Frequency Radio Background Synchrotron Spectrum as an Indicator of Clumpiness in the Warm Ionized Medium. J. D. Peterson & W. R. Weber. 575, 217 (2002)
- WEEKES, T. C. See KRENNRICH, F., et al. Discovery of Spectral Variability of Markarian 421 at TeV Energies.
- WEI, JIAN-YAN. A Metal-poor Compact H II Region with a Small, Isolated, and Dense Young Stellar Cluster. Jun-Jie Wang, Jian-Yan Wei, & Jing-Yao Hu, 573, 238 (2002)
- WEINBERG, DAVID H. The Halo Occupation Distribution: Toward an Empirical Determination of the Relation between Galaxies and Mass. Andreas A. Berlind & David H. Weinberg. 575, 587 (2002)
- Do Distinct Cosmological Models Predict Degenerate Halo Populations?

 Zheng Zheng, Jeremy L. Tinker, David H. Weinberg, & Andreas A.

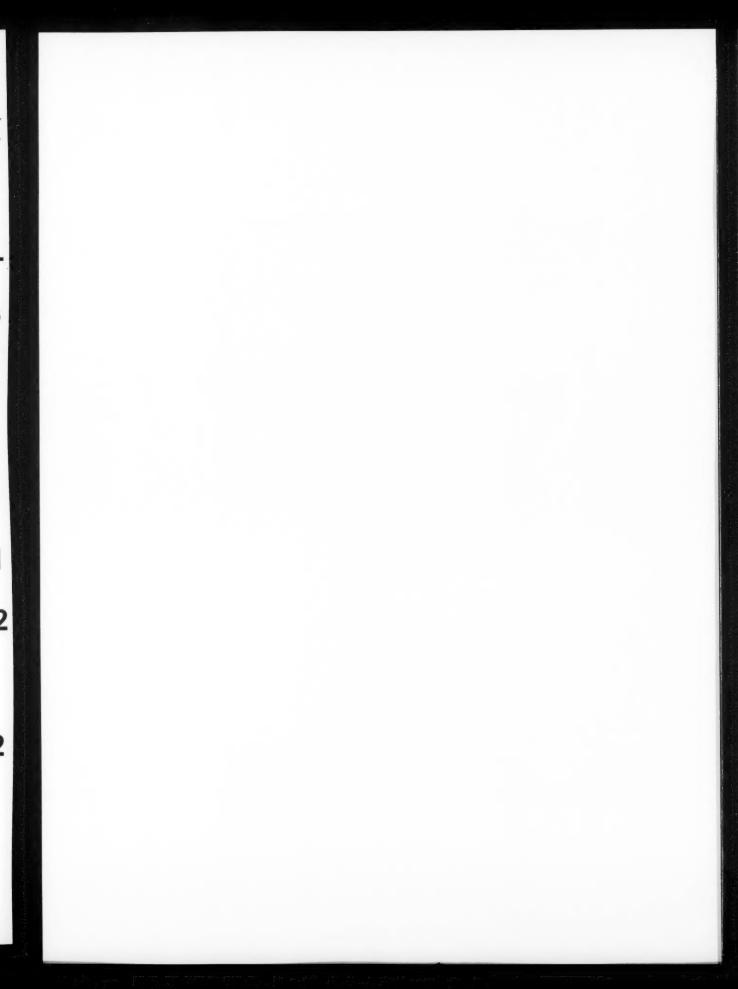
 Berlind, 575, 617 (2002)
- WEINBERG, MARTIN D. An Upper Limit to the Age of the Galactic Bar. Andrew A. Cole & Martin D. Weinberg. 574, L43 (2002)
- WEINBERGER, A. J. Mid-Infrared Images of the Debris Disk around HD 141569. K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
- WELCH, D. L. See ALCOCK, C., et al. The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries.
- WELTY, DANIEL E. Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)
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 K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
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- WIJNANDS, RUDY. XMM-Newton Observations of the Neutron Star X-Ray Transient KS 1731–260 in Quiescence. Rudy Wijnands, Matteo Guainazzi, Michiel van der Klis, & Mariano Méndez. 573, L45 (2002)
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 Luis F. Rodríguez, W. M. Goss, & Robert Williams. 574, 179 (2002)
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 - Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)
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- Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)
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- WINN, JOSHUA N. PKS 1830—211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)
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- WYITHE, J. S. B. Cosmological Microlensing Statistics: Variability Rates for Quasars and Gamma-Ray Burst Afterglows and Implications for Macrolensing Magnification Bias and Flux Ratios. J. S. B. Wyithe & Edwin L. Turner. 575, 650 (2002)
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- YOON, PETER H. Generation of Type III Solar Radio Bursts in the Low Corona by Direct Amplification. C. S. Wu, C. B. Wang, Peter H. Yoon, H. N. Zheng, & S. Wang. 575, 1094 (2002)
- YORK, DONALD G. Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)
- The Redshift of a Lensing Galaxy in PMN J0134-0931. Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton, David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann. 575, L51 (2002)
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- YUAN, Q. Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)
- Yun, H. S. Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
- Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
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- ZACCHEI, ANDREA. Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)
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- ZAMORANO, J. ¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)
- ZANE, SILVIA. Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806—20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)
- ZANGRILLI, L. Two-dimensional Structure of a Polar Coronal Hole at Solar Minimum: New Semiepirical Methodology for Deriving Plasma Parameters. L. Zangrilli, G. Poletto, P. Nicolosi, G. Noci, & M. Romoli. 574, 477 (2002)
- ZANK, G. P. Coronal Heating Distribution Due to Low-Frequency, Wave-driven Turbulence. P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)
- ZANK, GARY P. Measured Mass-Loss Rates of Solar-like Stars as a Function of Age and Activity. Brian E. Wood, Hans-Reinhard Müller, Gary P. Zank, & Jeffrey L. Linsky. 574, 412 (2002)
- ZAVLIN, V. E. Discovery of Absorption Features in the X-Ray Spectrum of an Isolated Neutron Star. D. Sanwal, G. G. Pavlov, V. E. Zavlin, & M. A. Teter. 574, L61 (2002)
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 Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)
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- ZEZAS, A. A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies. R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)
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- ZHANG, M. The Timing of Flares Associated with the Two Dynamical Types of Solar Coronal Mass Ejections. M. Zhang, L. Golub, E. DeLuca, & J. Burkepile. 574, L97 (2002)
- ZHAO, HONGSHEN. ALCDM-based Models for the Milky Way and M31.

 Dymanical Models. Anatoly Klypin, HongShen Zhao, & Rachel S. Sommerville. 573, 597 (2002)
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- ZHENG, H. N. Generation of Type III Solar Radio Bursts in the Low Corona by Direct Amplification. C. S. Wu, C. B. Wang, Peter H. Yoon, H. N. Zheng, & S. Wang. 575, 1094 (2002)
- ZHENG, WEI. Non-Gaussian Features of Transmitted Flux of QSOs' Lya Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar. Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)
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ATOMIC PROCESSES

On the Atomic Polarization of the Ground Level of Na 1. Roberto Casini, Egidio Landi Degl'Innocenti, Marco Landolfi, & Javier Trujillo Bueno. 573, 864 (2002)

The Effect of High-lying Levels on Atomic Levels Relevant to Spectroscopic Analysis of Solar Extreme-Ultraviolet Spectra. R. Doron, G. A. Doschek, U. Feldman, A. K. Bhatia, & A. Bar-Shalom. 574, 504 (2002) The X-Ray Spectrum of Fe¹⁶⁺ Revisited with a Multi-Ion Model. *Rami Doron & Ehud Behar.* 574, 518 (2002)

BLACK HOLE PHYSICS

- Spin-induced Disk Precession in the Supermassive Black Hole at the Galactic Center. Siming Liu & Fulvio Melia. 573, L23 (2002)
- Near-Infrared Synchrotron Emission from the Compact Jet of GX 339-4.
 S. Corbel & R. P. Fender. 573, L35 (2002)
- Numerical Models of Viscous Accretion Flows near Black Holes. Jonathan C. McKinney & Charles F. Gammie. 573, 728 (2002)
- The Dynamical Structure of Nonradiative Black Hole Accretion Flows. *John F. Hawley & Steven A. Balbus.* 573, 738 (2002)
- On the Nature of Angular Momentum Transport in Nonradiative Accretion Flows. Steven A. Balbus & John F. Hawley. 573, 749 (2002)
- Where Is the Inner Edge of an Accretion Disk around a Black Hole? *Julian H. Krolik & John F. Hawley.* 573, 754 (2002)
- The Effect of the Dissipative Corona on the Structure and Stability of Cold Optically Thick Accretion Disks at High Accretion Rates. Ranjeev Misra & Ronald E. Taam. 573, 764 (2002)
- Does the Slim-Disk Model Correctly Consider Photon-trapping Effects? Ken Ohsuga, Shin Mineshige, Masao Mori, & Masayuki Umemura. 574, 315 (2002)
- The Slope of the Black Hole Mass versus Velocity Dispersion Correlation. Scott Tremaine, Karl Gebhardt, Ralf Bender, Gary Bower, Alan Dressler, S. M. Faber, Alexei V. Filippenko, Richard Green, Carl Grillmair, Luis C. Ho, John Kormendy, Tod R. Lauer, John Magorrian, Jason Pinkney, & Douglas Richstone. 574, 740 (2002)
- On the Lack of Type I X-Ray Bursts in Black Hole X-Ray Binaries: Evidence for the Event Horizon? Ramesh Narayan & Jeremy S. Heyl. 574, L139 (2002)
- Discovery of a Black Hole Mass-Period Correlation in Soft X-Ray Transients and Its Implication for Gamma-Ray Burst and Hypernova Mechanisms. C.-H. Lee, G. E. Brown, & R. A. M. J. Wijers. 575, 996 (2002)
- LIGO/VIRGO Searches for Gravitational Radiation in Hypernovae. Maurice H. P. M. van Putten. 575, L71 (2002)

CELESTIAL MECHANICS

- A Collisional Family in the Classical Kuiper Belt. E. I. Chiang. 573, L65 (2002)
- A Dynamical Mechanism for Establishing Apsidal Resonance. *Renu Malhotra*. 575, L33 (2002)
- Stability of Satellities around Close-in Extrasolar Giant Planets. Jason W. Barnes & D. P. O'Brien. 575, 1087 (2002)

COMETS: GENERAL

- A Collisional Family in the Classical Kuiper Belt. E. I. Chiang. 573, L65 (2002)
- Unidentified Bands in Comet Ikeya-Zhang (C/2002 C1): The Correlation between Unidentified Bands and H⁺₂. Hideyo Kawakita & Jun-ichi Watanabe. 574, L183 (2002)

COMETS: INDIVIDUAL

Name: Ikeva-Zhang (C/2002 C1)

Unidentified Bands in Comet Ikeya-Zhang (C/2002 C1): The Correlation between Unidentified Bands and H₂⁺. Hideyo Kawakita & Jun-ichi Watanabe. 574, L183 (2002)

CONDUCTION

Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)

CONVECTION

- On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)
- On the Nature of Angular Momentum Transport in Nonradiative Accretion Flows. Steven A. Balbus & John F. Hawley. 573, 749 (2002)
- A Reappraisal of the Solar Photospheric C/O Ratio. Carlos Allende Prieto & David L. Prieto. 573, L137 (2002)
- Hydromagnetic Instabilities in Proto-Neutron Stars. Juan A. Miralles, José A. Pons, & Vadim A. Urpin. 574, 356 (2002)

COSMOLOGY: COSMIC MICROWAVE BACKGROUND

Kinetic Sunyaev-Zeldovich Effect from Halo Rotation. Asantha Cooray & Xuelei Chen. 573, 43 (2002)

- First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Steen H. Hansen, Sergio Pastor, & Dmitry V. Semikoz. 573, L69 (2002)
- New Limits on the Polarized Anisotrophy of the Cosmic Microwave Background at Subdegree Angular Scales. M. M. Hedman, D. Barkats, J. O. Gundersen, J. J. McMahon, S. T. Staggs, & B. Winstein. 573, L73 (2002)
- The Distance to Clusters: Correcting for Asphericity. David C. Fox & Ue-Li Pen. 574, 38 (2002)
- Mass Reconstruction with Cosmic Microwave Background Polarization. Wayne Hu & Takemi Okamoto. 574, 566 (2002)
- MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies. Marco De Petris, Livia D'Alba, Luca Lamagna, Francesco Melchiorri, Angiola Orlando, Emilia Palladino, Yoel Rephaeli, Segio Colafrancesco, Ernst Kreysa, & Monique Signore. 574, L119 (2002)
- Cosmic Microwave Background Comptonization by Energetic Nonthermal Electrons in Clusters of Galaxies. *Meir Shimon & Yoel Rephaeli*. 575, 12 (2002)
- Prospects for Detection of Intracluster Gas Bulk Velocities through the Sunyaev-Zeldovich Effect. Renato A. Dupke & Joel N. Bregman. 575, 634 (2002)

COSMOLOGY: COSMOLOGICAL PARAMETERS

- Model-independent Primordial Power Spectrum from MAXIMA, BOOMERANG, and DASI Data. Yun Wang & Grant J. Mathews. 573, 1 (2002)
- Cosmological Parameters from Redshift-Space Correlations. Takahiko Matsubara & Alexander S Szalav. 574, 1 (2002)
- Stellar Mixing and the Primordial Lithium Abundance. M. H. Pinsonneault, G. Steigman, T. P. Walker, & V. K. Narayanan. 574, 398 (2002)
- Cosmic Microwave Background Comptonization by Energetic Nonthermal Electrons in Clusters of Galaxies. *Meir Shimon & Yoel Rephaeli*. 575, 12 (2002)
- Rethinking Lensing and A. Charles R. Keeton. 575, L1 (2002)
- Modified Median Statistics and Type Ia Supernova Data. P. P. Avelino, C. J. A. P. Martins, & P. Pinto. 575, 989 (2002)

COSMOLOGY: DARK MATTER

- Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations. A. E. Evrard, T. J. MacFarland, H. M. P. Couchman, J. M. Colberg, N. Yoshida, S. D. M. White, A. Jenkins, C. S. Frenk, F. R. Pearce, J. A. Peacock, & P. A. Thomas (The Virgo Consortium). 573, 7 (2002)
- Systematic Effects on Tangential and Radial Arc Statistics: The Finite Source Size and Ellipticities of the Lens and Source. Masamune Oguri. 573, 51 (2002)
- Probing the Mass Distribution in Groups of Galaxies using Gravitational Lensing. Ole Möller, Priyamvada Natarajan, Jean-Paul Kneib, & A. W. Blain. 573, 562 (2002)
- A Proper-Motion Survey for White Dwarfs with the Wide Field Planetary Camera 2. C. A. Nelson, K. H. Cook, T. S. Axelrod, J. R. Mould, & C. Alcock. 573, 644 (2002)
- Triaxial Modeling of Halo Density Profiles with High-Resolution N-Body Simulations. Y. P. Jing & Yasushi Suto. 574, 538 (2002)
- Mass Reconstruction with Cosmic Microwave Background Polarization. Wayne Hu & Takemi Okamoto. 574, 566 (2002)
- The Search for Intergalactic Hydrogen Clouds in Voids. *Curtis V. Manning*. 574, 599 (2002)
- Simulation of a Space-based Microlensing Survey for Terrestrial Extrasolar Planets. David P. Bennett & Sun Hong Rhie. 574, 985 (2002)
- Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)
- The Internal Structure and Formation of Early-Type Galaxies: The Gravitational Lens System MG 2016+112 at z = 1.004. Tommaso Treu & Leon V. E. Koopmans. 575, 87 (2002)
- Do Distinct Cosmological Models Predict Degenerate Halo Populations? Zheng Zheng, Jeremy L. Tinker, David H. Weinberg, & Andreas A. Berlind. 575, 617 (2002)
- Cosmological Microlensing Statistics: Variability Rates for Quasars and Gamma-Ray Burst Afterglows and Implications for Macrolensing Magnification Bias and Flux Ratios. J. S. B. Wyithe & Edwin L. Turner. 575, 650 (2002)

Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)

COSMOLOGY: DIFFUSE RADIATION

- The Cosmic Radio and Infrared Backgrounds Connection. Eli Dwek & Michael K. Barker. 575, 7 (2002)
- The Guaranteed Gamma-Ray Background. Vasiliki Pavliduo & Brian D. Fields. 575, L5 (2002)
- Magnetohydrodynamic Turbulence as a Foreground for Cosmic Microwave Background Studies. *Jungyeon Cho & A. Lazarian.* 575, L63 (2002)

COSMOLOGY: DISTANCE SCALE

- Resolving the 47 Tucanae Distance Problem. Susan M. Percival, Maurizio Salaris, Francois van Wyk, & David Kilkenny. 573, 174 (2002)
- K-Band Red Clump Distance to the Large Magellanic Cloud. David R. Alves, Marina Rejkuba, Dante Minniti, & Kem H. Cook. 573, L51 (2002)
- The Distance to Clusters: Correcting for Asphericity. David C. Fox & Ue-Li Pen. 574, 38 (2002)
- Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)
- Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- PKS 1830—211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)

COSMOLOGY: EARLY UNIVERSE

- Model-independent Primordial Power Spectrum from MAXIMA, BOOMERANG, and DASI Data. Yun Wang & Grant J. Mathews. 573, 1 (2002)
- New Limits on the Polarized Anisotrophy of the Cosmic Microwave Background at Subdegree Angular Scales. M. M. Hedman, D. Barkats, J. O. Gundersen, J. J. McMahon, S. T. Staggs, & B. Winstein. 573, L73 (2002)
- The Expected Redshift Distribution of Gamma-Ray Bursts. Volker Bromm & Abraham Loeb. 575, 111 (2002)

COSMOLOGY: LARGE-SCALE STRUCTURE OF UNIVERSE

- Kinetic Sunyaev-Zeldovich Effect from Halo Rotation. Asantha Cooray & Xuelei Chen. 573, 43 (2002)
- Cosmological Parameters from Redshift-Space Correlations. *Takahiko Matsubara & Alexander S. Szalay.* 574, 1 (2002)
- Analytic Approach to the Cloud-in-Cloud Problem for Non-Gaussuian Density Fluctuations. Kaiki Taro Inoue & Masahiro Nagashima. 574, 9 (2002)
- Second-Order Corrections to Weak Lensing by Large-Scale Structure. Asantha Cooray & Wayne Hu. 574, 19 (2002)
- Completeness in Photometric and Spectroscopic Searches for Clusters. Martin White & C. S. Kochanek. 574, 24 (2002)
- A Simple Analytical Model for the Abundance of Damped Ly α Absorbers. T. Roy Choudhury & T. Padmanabhan. 574, 59 (2002)
- Bias and Conditional Mass Function of Dark Halos Based on the Nonspherical Collapse Model. Lihwai Lin, Tzihong Chiueh, & Jounghun Lee. 574, 527 (2002)
- Mass Reconstruction with Cosmic Microwave Background Polarization.

 Wayne Hu & Takemi Okamoto. 574, 566 (2002)
- Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)
- Early Enrichment of the Intergalactic Medium and Its Feedback on Galaxy Formation. Evan Scannapieco, Andrea Ferrara, & Piero Madau. 574, 590 (2002)
- The Local Lyα Forest: Absorbers in Galaxy Voids. Kevin M. McLin, John T. Stocke, R. J. Weymann, Steven V. Penton, & J. Michael Shull. 574, L115 (2002)
- The Halo Occupation Distribution: Toward an Empirical Determination of the Relation between Galaxies and Mass. Andreas A. Berlind & David H. Weinberg, 575, 587 (2002)
- Do Distinct Cosmological Models Predict Degenerate Halo Populations? Zheng Zheng, Jeremy L. Tinker, David H. Weinberg, & Andreas A. Berlind. 575, 617 (2002)

Completeness in Weak-Lensing Searches for Clusters. Martin White, Ludovic van Waerbeke, & Jonathan Mackey, 575, 640 (2002)

COSMOLOGY: OBSERVATIONS

- Optically Faint Counterparts to the *Infrared Space Observatory* FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- The Formation of Low-Mass Cluster Galaxies and the Universal Initial Galaxy Mass Function. Christopher J. Conselice. 573, L5 (2002)
- New Limits on the Polarized Anisotrophy of the Cosmic Microwave Background at Subdegree Angular Scales. M. M. Hedman, D. Barkats, J. O. Gundersen, J. J. McMahon, S. T. Staggs, & B. Winstein. 573, L73 (2002)
- Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L111 (2002)
- MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies. Marco De Petris, Livia D'Alba, Luca Lamagna, Francesco Melchiorri, Angiola Orlando, Emilia Palladino, Yoel Rephaeli, Segio Colafrancesco, Ernst Kreysa, & Monique Signore. 574, L119 (2002)
- The Cosmic Radio and Infrared Backgrounds Connection. Eli Dwek & Michael K. Barker. 575, 7 (2002)
- Cosmic Alignment toward the Radio Einstein Ring PKS 1830-211? F. Courbin, G. Meylan, J. P. Kneib, & C. Lidman. 575, 95 (2002)

COSMOLOGY: THEORY

- Model-independent Primordial Power Spectrum from MAXIMA, BOOMERANG, and DASI Data. Yun Wang & Grant J. Mathews. 573, 1 (2002)
- Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations. A. E. Evrard, T. J. MacFarland, H. M. P. Couchman, J. M. Colberg, N. Yoshida, S. D. M. White, A. Jenkins, C. S. Frenk, F. R. Pearce, J. A. Peacock, & P. A. Thomas (The Virgo Consortium). 573, 7 (2002)
- Constraining Cosmological Parameters Based on Relative Galaxy Ages. Raul Jimenez & Abraham Loeb. 573, 37 (2002)
- Kinetic Sunyaev-Zeldovich Effect from Halo Rotation. Asantha Cooray & Xuelei Chen. 573, 43 (2002)
- Systematic Effects on Tangential and Radial Arc Statistics: The Finite Source Size and Ellipticities of the Lens and Source. Masamune Oguri. 573, 51 (2002)
- The Cluster M_{gas}-T_X Relation: Evidence for a High Level of Preheating. Ian G. McCarthy, Arif Babul, & Michael L. Balogh. 573, 515 (2002)
- ALCDM-based Models for the Milky Way and M31. I. Dymanical Models. Anatoly Klypin, HongShen Zhao, & Rachel S. Sommerville. 573, 597 (2002)
- First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Steen H. Hansen, Sergio Pastor, & Dmitry V. Semikoz. 573, L69 (2002)
- Cosmological Parameters from Redshift-Space Correlations. *Takahiko Matsubara & Alexander S. Szalay.* 574, 1 (2002)
- Analytic Approach to the Cloud-in-Cloud Problem for Non-Gaussuian Density Fluctuations. Kaiki Taro Inoue & Masahiro Nagashima. 574, 9 (2002)
- Second-Order Corrections to Weak Lensing by Large-Scale Structure. Asantha Cooray & Wayne Hu. 574, 19 (2002)
- Completeness in Photometric and Spectroscopic Searches for Clusters. Martin White & C. S. Kochanek. 574, 24 (2002)
- Bias and Conditional Mass Function of Dark Halos Based on the Nonspherical Collapse Model. Lihwai Lin, Tzihong Chiueh, & Jounghun Lee. 574, 527 (2002)
- Triaxial Modeling of Halo Density Profiles with High-Resolution N-Body Simulations. Y. P. Jing & Yasushi Suto. 574, 538 (2002)
- Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)
- Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L111 (2002)
- The Cosmological Action in Redshift Space. S. D. Phelps. 575, 1 (2002)Cosmic Microwave Background Comptonization by Energetic Nonthermal Electrons in Clusters of Galaxies. Meir Shimon & Yoel Rephaeli. 575, 12

(2002)

Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)

The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 33 (2002)

The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)

The Expected Redshift Distribution of Gamma-Ray Bursts. Volker Bromm & Abraham Loeb. 575, 111 (2002)

The Halo Occupation Distribution: Toward an Empirical Determination of the Relation between Galaxies and Mass. Andreas A. Berlind & David H. Weinberg. 575, 587 (2002)

Do Distinct Cosmological Models Predict Degenerate Halo Populations? Zheng Zheng, Jeremy L. Tinker, David H. Weinberg, & Andreas A. Berlind. 575, 617 (2002)

Completeness in Weak-Lensing Searches for Clusters. Martin White, Ludovic van Waerbeke, & Jonathan Mackey. 575, 640 (2002)

DIFFUSION

Rotational Velocities of B Stars. Helmut A. Abt, Hugo Levato, & Monica Grosso. 573, 359 (2002)

Particle Acceleration in Solar Wind Comression Regions. J. Giacalone, J. R. Jokipii, & J. Kóta. 573, 845 (2002)

H I: A Chemical Tracer of Turbulent Diffusion in Molecular Clouds. Karen Willacy, William D. Langer, & Mark Allen. 573, L119 (2002)

Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)

EARTH

The Spectrum of Earthshine: A Pale Blue Dot Observed from the Ground. N. J. Woolf, P. S. Smith, W. A. Traub, & K. W. Jucks. 574, 430 (2002)

ERRATA, ADDENDA

The Cosmological Density and Ionization of Hot Gas: O vi Absorption in Quasar Spectra: Erratum (ApJ, 460, 584 [1996]). Scott Burles & David Tytler. 573, 471 (2002) (Orig. paper in 460, 584, 80-E4 (1996))

The Extinction and Metallicity of Galactic H II Regions from ISO-SWS Observations of Mid-Infrared Fine Structure Lines: Erratum (ApJ, 566, 880 [2002]). Uriel Giveon, Amiel Sternberg, Dieter Lutz, Helmut Fechtgruber, & A. W. A. Pauldrach. 575, 585 (2002) (Orig. paper in 566, 880 (2002))

GALAXIES: ABUNDANCES

Chandra Observations of Abell 2029: No Cooling Flow and a Steep Abundance Gradient. Aaron D. Lewis, John T. Stocke, & David A. Buote. 573, L13 (2002)

The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)

Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. Tohru Nagao, Takashi Murayama, Yasuhiro Shioya, & Yoshiaki Taniguchi. 575, 721 (2002)

A Simple Model for r-Process Scatter and Halo Evolution. Brian D. Fields, James W. Truran, & John J. Cowan. 575, 845 (2002)

GALAXIES: ACTIVE

Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)

Nobeyama Millimeter Array CO (J=1–0) Observations of the H α Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)

NGC 4151: An Intrinsically Average Seyfert 1. Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)

Heated Cooling Flows. Fabrizio Brighenti & William G. Mathews. 573, 542

INTEGRAL Spectroscopy of IRAS 15206+3342: Gas and Starbursts in an Advanced Merger. Santiago Arribas & Luis Colina. 573, 576 (2002)

Numerical Models of Viscous Accretion Flows near Black Holes. Jonathan C. McKinney & Charles F. Gammie. 573, 728 (2002)

H I Absorption in the Gigamaser Galaxy TXS 2226–184 and the Relation between H I Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)

- Creation of X-Ray Holes with Cool Rims in Cooling Flows. Fabrizio Brighenti & William G. Mathews. 574, L11 (2002)
- Jet-Triggered Type Ia Supernovae in Radio Galaxies? Alessandro Capetti. 574, L25 (2002)
- Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)
- The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy. Shai Kaspi, W. N. Brandt, Ian M. George, Hagai Netzer, D. Michael Crenshaw, Jack R. Gabel, Frederick W. Hamann, Mary Elizabeth Kaiser, Anuradha Koratkar, Steven B. Kraemer, Gerard A. Kriss, Smita Mathur, Richard F. Mushotzky, Kirpal Nandra, Bradley M. Peterson, Joseph C. Shields, T. J. Turner, & Wei Zheng. 574, 643 (2002)

Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)

Narrow Components within the Fe Kα Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects. *T. J. Turner, R. F. Mushotzky, T. Yaqoob, I. M. George, S. L. Snowden, H. Netzer, S. B. Kraemer, K. Nandra, & D. Chelouche.* 574, L123 (2002)

X-Ray Spectra of Intermediate-Luminosity, Radio-loud Quasars. Christina A. Hasenkopf, Rita M. Sambruna, & Michael Eracleous. 575, 127 (2002)

The Orientation of Jets Relative to Dust Disks in Radio Galaxies. H. R. Schmitt, J. E. Pringle, C. J. Clarke, & A. L. Kinney. 575, 150 (2002)

Star Formation Associated with the X-Ray Jet in Centaurus A. John A. Graham & Caleb I. Fassett. 575, 712 (2002)

Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. Tohru Nagao, Takashi Murayama, Yasuhiro Shioya, & Yoshiaki Taniguchi. 575, 721 (2002)

Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)

GALAXIES: BL LACERTAE OBJECTS: GENERAL

Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)

Transformation Properties of External Radiation Fields, Energy-Loss Rates and Scattered Spectra, and a Model for Blazar Variability. *Charles D. Dermer & Reinhard Schlickeiser.* 575, 667 (2002)

GALAXIES: BL LACERTAE OBJECTS: INDIVIDUAL

Name: Markarian 421

Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)

Discovery of Spectral Variability of Markarian 421 at TeV Energies. F. Krennrich, I. H. Bond, S. M. Bradbury, J. H. Buckley, D. A. Carter-Lewis, W. Cui, I. de la Calle Perez, D. J. Fegan, J. P. Finley, J. A. Gaidos, K. Gibbs, G. H. Gillanders, T. A. Hall, A. M. Hillas, J. Holder, D. Horan, M. Jordan, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, K. Kosack, M. J. Lang, S. LeBohec, P. Moriarty, D. Müller, R. A. Ong, R. Pallassini, D. Petry, J. Quinn, N. W. Reuy, P. T. Reynolds, H. J. Rose, G. H. Sembroski, R. Sidwell, N. Stanton, S. P. Swordy, V. V. Vassiliev, S. P. Wakely, & T. C. Weekes, 575, L.9 (2002)

Alphanumeric: 1803+784

Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)

Alphanumeric: PKS 1519-273

Circular Polarization from Stochastic Synchrotron Sources. Mateusz Ruszkowski & Mitchell C. Begelman. 573, 485 (2002)

GALAXIES: BULGES

The Luminosity Functions and Stellar Masses of Galactic Disks and Speroids. A. J. Benson, C. S. Frenk, & R. M. Sharples. 574, 104 (2002)

The Slope of the Black Hole Mass versus Velocity Dispersion Correlation. Scott Tremaine, Karl Gebhardt, Ralf Bender, Gary Bower, Alan Dressler, S. M. Faber, Alexei V. Filippenko, Richard Green, Carl Grillmair, Luis C. Ho, John Kormendy, Tod R. Lauer, John Magorrian, Jason Pinkney, & Douglas Richstone. 574, 740 (2002)

GALAXIES: CLUSTERS: GENERAL

Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations. A. E. Evrard, T. J. MacFarland, H. M. P. Couchman, J. M. Colberg, N. Yoshida, S. D. M. White, A. Jenkins, C. S. Frenk, F. R. Pearce, J. A. Peacock, & P. A. Thomas (The Virgo Consortium). 573, 7 (2002)

Systematic Effects on Tangential and Radial Arc Statistics: The Finite Source Size and Ellipticities of the Lens and Source. Masamune Oguri. 573, 51

(2002)

Globular Clusters at High Redshift. R. G. Carlberg. 573, 60 (2002)

A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa. 573, L9 (2002)

The Cluster $M_{\rm gas}$ - T_X Relation: Evidence for a High Level of Preheating. lan G. McCarthy, Arif Babul, & Michael L. Balogh. 573, 515 (2002)

Losing Weight: A Keck Spectroscopic Survey of the Massive Cluster of Galaxies RX J1347–1145. Judith G. Cohen & Jean-Paul Kneib. 573, 524 (2002)

Hot Bubbles in Cooling Flow Clusters. Noam Soker, Elizabeth L. Blanton, & Craig L. Sarazin. 573, 533 (2002)

Probing the Mass Distribution in Groups of Galaxies using Gravitational Lensing. Ole Möller, Priyamvada Natarajan, Jean-Paul Kneib, & A. W. Blain. 573, 562 (2002)

First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Steen H. Hansen, Sergio Pastor, & Dmitry V. Semikoz. 573, L69 (2002)

Cosmological Parameters from Redshift-Space Correlations. *Takah Matsubara & Alexander S. Szalay.* 574, 1 (2002)

Completeness in Photometric and Spectroscopic Searches for Clusters. *Martin White & C. S. Kochanek.* 574, 24 (2002)

The Distance to Clusters: Correcting for Asphericity. David C. Fox & Ue-Li Pen. 574, 38 (2002)

Low-Energy X-Ray Emission from the Abell 2199 Cluster of Galaxies. Jelle S. Kaastra, Richard Lieu, Johan A. M. Bleeker, Rolf Mewe, & Sergio Colafrancesco. 574, L1 (2002)

Creation of X-Ray Holes with Cool Rims in Cooling Flows. Fabrizio Brighenti & William G. Mathews. 574, L11 (2002)

Bias and Conditional Mass Function of Dark Halos Based on the Nonspherical Collapse Model. Lihwai Lin, Tzihong Chiueh, & Jounghun Lee. 574, 527 (2002)

Triaxial Modeling of Halo Density Profiles with High-Resolution N-Body Simulations. Y. P. Jing & Yasushi Suto. 574, 538 (2002)

Cosmic Microwave Background Comptonization by Energetic Nonthermal Electrons in Clusters of Galaxies. Meir Shimon & Yoel Rephaeli. 575, 12 (2002)

Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)

Quantification of Uncertainty in the Measurement of Magnetic Fields in Clusters of Galaxies. William I. Newman, Alice L. Newman, & Yoel Rephaeli. 575, 755 (2002)

Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)

Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding. 575, 779 (2002)

GALAXIES: CLUSTERS: INDIVIDUAL

Name: Abell 1656

MITO Measurements of the Sunyaev-Zeldovich Effect in the Coma Cluster of Galaxies. Marco De Petris, Livia D'Alba, Luca Lamagna, Francesco Melchiorri, Angiola Orlando, Emilia Palladino, Yoel Rephaeli, Segio Colafrancesco, Ernst Kreysa, & Monique Signore. 574, L119 (2002) Name: Abell 1995

Chandra Observations of Unresolved X-Ray Sources around Two Clusters of Galaxies. Sandor M. Molnar, John P. Hughes, Megan Donahue, &

Marshall Joy. 573, L91 (2002)

Name: Abell 2199

Low-Energy X-Ray Emission from the Abell 2199 Cluster of Galaxies. Jelle S. Kaastra, Richard Lieu, Johan A. M. Bleeker, Rolf Mewe, & Sergio Colafrancesco. 574, L1 (2002)

Name: Abell 3526

Prospects for Detection of Intracluster Gas Bulk Velocities through the Sunyaev-Zeldovich Effect. Renato A. Dupke & Joel N. Bregman. 575, 634 (2002)

Name: Centaurus A

Star Formation Associated with the X-Ray Jet in Centaurus A. John A. Graham & Caleb I. Fassett. 575, 712 (2002)

Name: Perseus

The Formation of Low-Mass Cluster Galaxies and the Universal Initial Galaxy Mass Function. Christopher J. Conselice. 573, L5 (2002)

Name: Virgo

The Heavy-Element Enrichment of Lyα Clouds in the Virgo Supercluster. T. M. Tripp, E. B. Jenkins, G. M. Williger, S. R. Heap, C. W. Bowers, A. C. Danks, R. Davé, R. F. Green, T. R. Gull, C. L. Joseph, M. E. Kaiser, D. Lindler, R. J. Weymann, & B. E. Woodgate. 575, 697 (2002)

Alphanumeric: A133

Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)

Alphanumeric: A1413

Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding, 575, 779 (2002)

Alphanumeric: A2029

Chandra Observations of Abell 2029: No Cooling Flow and a Steep Abundance Gradient. Aaron D. Lewis, John T. Stocke, & David A. Buote. 573, L13 (2002)

Alphanumeric: MKW 7

Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding. 575, 779 (2002)

Alphanumeric: MS 0451.6-0305

Chandra Observations of Unresolved X-Ray Sources around Two Clusters of Galaxies. Sandor M. Molnar, John P. Hughes, Megan Donahue, & Marshall Joy. 573, L91 (2002)

Alphanumeric: RX J1347.5-1145

Losing Weight: A Keck Spectroscopic Survey of the Massive Cluster of Galaxies RX J1347–1145. Judith G. Cohen & Jean-Paul Kneib. 573, 524 (2002)

GALAXIES: COOLING FLOWS

Chandra Observations of Abell 2029: No Cooling Flow and a Steep Abundance Gradient. Aaron D. Lewis, John T. Stocke, & David A. Buote. 573, L13 (2002)

Hot Bubbles in Cooling Flow Clusters. Noam Soker, Elizabeth L. Blanton, & Craig L. Sarazin. 573, 533 (2002)

Heated Cooling Flows. Fabrizio Brighenti & William G. Mathews. 573, 542 (2002)

Creation of X-Ray Holes with Cool Rims in Cooling Flows. Fabrizio Brighenti & William G. Mathews. 574, L11 (2002)

An XMM-Newton Observation of NGC 1399 Reveals Two Phases of Hot Gas and Supersolar Abundances in the Central Regions. David A. Buote. 574, L135 (2002)

Prospects for Detection of Intracluster Gas Bulk Velocities through the Sunyaev-Zeldovich Effect. Renato A. Dupke & Joel N. Bregman. 575, 634 (2002)

Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)

GALAXIES: DISTANCES AND REDSHIFTS

K-Band Red Clump Distance to the Large Magellanic Cloud. David R. Alves, Marina Rejkuba, Dante Minniti, & Kem H. Cook. 573, L51 (2002)

The Cosmological Action in Redshift Space. S. D. Phelps. 575, 1 (2002)

GALAXIES: DWARF

The Formation of Low-Mass Cluster Galaxies and the Universal Initial Galaxy Mass Function. Christopher J. Conselice. 573, L5 (2002)

¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)

Extended H | Spiral Structure and the Figure Rotation of Triaxial Dark Halos. Kenji Bekki & Kenneth C. Freeman. 574, L21 (2002)

- The Absence of Stars in Compact High-Velocity Clouds. Joshua D. Simon & Leo Blitz. 574, 726 (2002)
- Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)
- The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. *Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull.* 575, 33 (2002)
- The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)

GALAXIES: ELLIPTICAL AND LENTICULAR, CD

- Heated Cooling Flows. Fabrizio Brighenti & William G. Mathews. 573, 542 (2002)
- Creation of X-Ray Holes with Cool Rims in Cooling Flows. Fabrizio Brighenti & William G. Mathews. 574, L11 (2002)
- Chandra Observation of Low-Mass X-Ray Binaries in the Elliptical Galaxy M84. A. Finoguenov & C. Jones. 574, 754 (2002)
- The Dark Matter Profile of the Lensing Cluster MS 2137–23: A Test of the Cold Dark Matter Paradigm. David J. Sand, Tommaso Treu, & Richard S. Ellis. 574, L129 (2002)
- The Internal Structure and Formation of Early-Type Galaxies: The Gravitational Lens System MG 2016+112 at z = 1.004. *Tommaso Treu & Leon V. E. Koopmans.* 575, 87 (2002)

GALAXIES: EVOLUTION

- Optically Faint Counterparts to the Infrared Space Observatory FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- Chemodynamic Evolution of Globular Cluster Systems. Yoshihiko Saito & Masanori Ive. 573, 122 (2002)
- The Formation of Low-Mass Cluster Galaxies and the Universal Initial Galaxy Mass Function. Christopher J. Conselice. 573, L5 (2002)
- ¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)
- The Role of a Hot Gas Environment in the Evolution of Galaxies. David Burstein & George Blumenthal. 574, L17 (2002)
- Early Enrichment of the Intergalactic Medium and Its Feedback on Galaxy Formation. Evan Scannapieco, Andrea Ferrara, & Piero Madau. 574, 590 (2002)
- The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)
- The Dark Matter Profile of the Lensing Cluster MS 2137–23: A Test of the Cold Dark Matter Paradigm. David J. Sand, Tommaso Treu, & Richard S. Ellis. 574, L129 (2002)
- The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 33 (2002)
- The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)
- Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944. C. L. Carilli, P. Cox, F. Bertoldi, K. M. Menten, A. Omont, S. G. Djorgovski, A. Petric, A. Beelen, K. G. Isaak, & R. G. McMahon. 575, 145 (2002)
- Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- Rethinking Lensing and A. Charles R. Keeton. 575, L1 (2002)
- The Guaranteed Gamma-Ray Background. Vasiliki Pavliduo & Brian D. Fields. 575, L5 (2002)

GALAXIES: FORMATION

- Optically Faint Counterparts to the *Infrared Space Observatory* FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- Chemodynamic Evolution of Globular Cluster Systems. Yoshihiko Saito & Masanori Iye. 573, 122 (2002)
- The Formation of Low-Mass Cluster Galaxies and the Universal Initial Galaxy Mass Function. Christopher J. Conselice. 573, L5 (2002)

- Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)
- Analytic Approach to the Cloud-in-Cloud Problem for Non-Gaussuian Density Fluctuations. Kaiki Taro Inoue & Masahiro Nagashima. 574, 9 (2002)
- Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)
- The Role of a Hot Gas Environment in the Evolution of Galaxies. David Burstein & George Blumenthal. 574, L17 (2002)
- Extended H | Spiral Structure and the Figure Rotation of Triaxial Dark Halos. Kenji Bekki & Kenneth C. Freeman. 574, L21 (2002)
- The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)
- The Dark Matter Profile of the Lensing Cluster MS 2137–23: A Test of the Cold Dark Matter Paradigm. David J. Sand, Tommaso Treu, & Richard S. Ellis. 574, L129 (2002)
- An XMM-Newton Observation of NGC 1399 Reveals Two Phases of Hot Gas and Supersolar Abundances in the Central Regions. David A. Buote. 574, L135 (2002)
- Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)
- The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. *Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull.* 575, 33 (2002)
- The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)
- The Internal Structure and Formation of Early-Type Galaxies: The Gravitational Lens System MG 2016+112 at z = 1.004. Tommaso Treu & Leon V. E. Koopmans. 575, 87 (2002)
- The Halo Occupation Distribution: Toward an Empirical Determination of the Relation between Galaxies and Mass. Andreas A. Berlind & David H. Weinberg. 575, 587 (2002)
- Do Distinct Cosmological Models Predict Degenerate Halo Populations? Zheng Zheng, Jeremy L. Tinker, David H. Weinberg, & Andreas A. Berlind. 575, 617 (2002)

GALAXIES: FUNDAMENTAL PARAMETERS

- A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. *I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon,* & J. Cepa. 573, L9 (2002)
- Losing Weight: A Keck Spectroscopic Survey of the Massive Cluster of Galaxies RX J1347—1145. Judith G. Cohen & Jean-Paul Kneib. 573, 524 (2002)
- The Slope of the Black Hole Mass versus Velocity Dispersion Correlation. Scott Tremaine, Karl Gebhardt, Ralf Bender, Gary Bower, Alan Dressler, S. M. Faber, Alexei V. Filippenko, Richard Green, Carl Grillmair, Luis C. Ho, John Kormendy, Tod R. Lauer, John Magorrian, Jason Pinkney, & Douglas Richstone. 574, 740 (2002)

GALAXIES: GENERAL

The Low-Mass X-Ray Binary-Globular Cluster Connection in NGC 4472.

Arunav Kundu, Thomas J. Maccarone, & Stephen E. Zepf. 574, L5 (2002)

GALAXIES: HALOS

- Discovery of High-Latitude CO in an H I Supershell in NGC 5775. S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)
- Neutrino, Neutron, and Cosmic-Ray Production in the External Shock Model of Gamma-Ray Bursts. Charles D. Dermer. 574, 65 (2002)
- Triaxial Modeling of Halo Density Profiles with High-Resolution N-Body Simulations. Y. P. Jing & Yasushi Suto. 574, 538 (2002)
- The Search for Intergalactic Hydrogen Clouds in Voids. Curtis V. Manning. 574, 599 (2002)
- The Local Lyα Forest: Absorbers in Galaxy Voids. Kevin M. McLin, John T. Stocke, R. J. Weymann, Steven V. Penton, & J. Michael Shull. 574, L115 (2002)
- An XMM-Newton Observation of NGC 1399 Reveals Two Phases of Hot Gas and Supersolar Abundances in the Central Regions. David A. Buote. 574, L135 (2002)
- Lensing Property of Cored Galaxy Models. N. W. Evans & C. Hunter. 575, 68 (2002)

- Do Distinct Cosmological Models Predict Degenerate Halo Populations? Zheng Zheng, Jeremy L. Tinker, David H. Weinberg, & Andreas A. Berlind. 575, 617 (2002)
- Hα Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)

GALAXIES: HIGH-REDSHIFT

- The Decline of the Source Population of Gamma-Ray Bursts and Their Luminosity Function. B. E. Stern, Ya. Tikhomirova, & R. Svensson. 573, 75 (2002)
- The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy. P. A. Price, E. Berger, S. R. Kulkarni, S. G. Djorgovski, D. W. Fox, A. Mahabal, K. Hurley, J. S. Bloom, D. A. Frail, T. J. Galama, F. A. Harrison, G. Morrison, D. E. Reichart, S. A. Yost, R. Sari, T. S. Axelrod, T. Cline, S. Golenetskii, E. Mazets, B. P. Schmidt, & J. Trombka. 573, 85 (2002)
- Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)
- Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)
- Cosmological Aspects of Gamma-Ray Bursts: Luminosity Evolution and an Estimate of the Star Formation Rate at High Redshifts. Nicole M. Lloyd-Ronning, Chris L. Fryer, & Enrico Ramirez-Ruiz. 574, 554 (2002)
- Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)
- The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. *Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull.* 575, 33 (2002)
- The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)

GALAXIES: INDIVIDUAL

Messier Number: M31

ALCDM-based Models for the Milky Way and M31. I. Dymanical Models. Anatoly Klypin, HongShen Zhao, & Rachel S. Sommerville. 573, 597 (2002)

Messier Number: M81

Circular Polarization from Stochastic Synchrotron Sources. Mateusz Ruszkowski & Mitchell C. Begelman. 573, 485 (2002)

Messier Number: M82

Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)

NGC Number: NGC 253

- Very Large Array Detection of Radio Recombination Lines from the Radio Nucleus of NGC 253: Inoization by a Weak Active Galactic Nucleus, an Obscured Super Star Cluster, or a Compact Supernova Remnant? Niruj R. Mohan, K. R. Anantharamaiah, & W. M. Goss. 574, 701 (2002)
- The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)

NGC Number: NGC 1068

- Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)
- XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068. Ali Kinkhabwala, Masao Sako, Ehud Behar, Steven M. Kahn, Frits Paerels, Albert C. Brinkman, Jelle S. Kaastra, Ming Feng Gu, & Duane A. Liedahl. 575, 732 (2002)

NGC Number: NGC 1399

An XMM-Newton Observation of NGC 1399 Reveals Two Phases of Hot Gas and Supersolar Abundances in the Central Regions. David A. Buote. 574, L135 (2002)

NGC Number: NGC 1425

Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)

NGC Number: NGC 1569

The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)

NGC Number: NGC 2273

Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)

NGC Number: NGC 3516

Narrow Components within the Fe Kα Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects. T. J. Turner, R. F. Mushotzky, T. Yaqoob, I. M. George, S. L. Snowden, H. Netzer, S. B. Kraemer, K. Nandra, & D. Chelouche. 574, L123 (2002)

NGC Number: NGC 3783

The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy. Shai Kaspi, W. N. Brandt, Ian M. George, Hagai Netzer, D. Michael Crenshaw, Jack R. Gabel, Frederick W. Hamann, Mary Elizabeth Kaiser, Anuradha Koratkar, Steven B. Kraemer, Gerard A. Kriss, Smita Mathur, Richard F. Mushotzky, Kirpal Nandra, Bradley M. Peterson, Joseph C. Shields, T. J. Turner, & Wei Zheng, 574, 643 (2002)

NGC Number: NGC 3898

Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)

NGC Number: NGC 4051

Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)

NGC Number: NGC 4151

NGC 4151: An Intrinsically Average Seyfert 1. Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)

NGC Number: NGC 4303

Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303.
Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A.
Moustakas. 575, 826 (2002)

NGC Number: NGC 4374

Chandra Observation of Low-Mass X-Ray Binaries in the Elliptical Galaxy M84. A. Finoguenov & C. Jones. 574, 754 (2002)

NGC Number: NGC 4472

The Low-Mass X-Ray Binary-Globular Cluster Connection in NGC 4472.
Arunav Kundu, Thomas J. Maccarone, & Stephen E. Zepf. 574, L5 (2002)

NGC Number: NGC 4698

Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)

NGC Number: NGC 5128

- Star Formation Associated with the X-Ray Jet in Centaurus A. John A. Graham & Caleb I. Fassett. 575, 712 (2002)
- Extragalactic Globular Cluster Planetary Nebulae: Discovery of a Planetary Nebula in the NGC 5128 Globular Cluster G169 Using the Magellan 1 Baade Telescope. Dante Minniti & Marina Rejkuba. 575, L59 (2002)

NGC Number: NGC 5248

Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee. Isaac Shlosman. Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)

NGC Number: NGC 5506

Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)

NGC Number: NGC 5548

Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)

NGC Number: NGC 5728

Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)

NGC Number: NGC 5775

Discovery of High-Latitude CO in an H 1 Supershell in NGC 5775. S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)

NGC Number: NGC 6251

Is the EGRET Source 3EG J1621+8203 the Radio Galaxy NGC 6251? R. Mukherjee, J. Halpern, N. Mirabal, & E. V. Gotthelf. 574, 693 (2002)

NGC Number: NGC 6951

Optical and Infrared Observations of the Supernova SN 1999el. E. Di Carlo, F. Massi, G. Valentini, A. Di Paola, F. D'Alessio, E. Brocato, D. Guidubaldi, M. Dolci, F. Pedichini, R. Speziali, G. Li Causi, A. Carattio Garatti, E. Cappellaro, M. Turatto, A. A. Arkharov, Y. Gnedin, V. M. Larionov, S. Benetti, A. Pastorello, I. Aretxaga, V. Chavushyan, O. Vega, I. J. Danziger, & A. Tornambé. 573, 144 (2002)

Name: Centaurus A

Extragalactic Globular Cluster Planetary Nebulae: Discovery of a Planetary Nebula in the NGC 5128 Globular Cluster G169 Using the Magellan I Baade Telescope. Dante Minniti & Marina Rejkuba. 575, L59 (2002)

Name: Large Magellanic Cloud

K-Band Red Clump Distance to the Large Magellanic Cloud. David R. Alves, Marina Rejkuba, Dante Minniti, & Kem H. Cook. 573, L51 (2002)

Name: Markarian 86

¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)

Name: Sagittarius

Remnants of the Sagittarius Dwarf Spheroidal Galaxy around the Young Globular Cluster Palomar 12. D. Martínez-Delgado, R. Zinn, R. Carrera, & C. Gallart. 573, L19 (2002)

Name: Sagittarius dSph

Absolute Proper Motions to $B \sim 22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter. Dana I. Dinescu, Steven R. Majewski, Terrence M. Girard, René A. Méndez, Allan Sandage, Michael H. Siegel, William E. Kunkel, John P. Subasavage, & Jamie Ostheimer. 575, L67 (2002)

Name: Small Magellanic Cloud

Discovery of a Possible Anomolous X-Ray Pulsar in the Small Magellanic Cloud. R. C. Lamb, D. W. Fox, D. J. Macomb, & T. A. Prince. 574, L29 (2002)

Alphanumeric: IRAS 15206+3342

INTEGRAL Spectroscopy of IRAS 15206+3342: Gas and Starbursts in an Advanced Merger. Santiago Arribas & Luis Colina. 573, 576 (2002)

Alphanumeric: MCG -6-30-15

Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. 1. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)

Alphanumeric: MM J120517-0743.1

Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)

Alphanumeric: MM J120539-0745.4

Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)

Alphanumeric: MM J120546-0741.5

Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)

Alphanumeric: TXS 2226-184

H I Absorption in the Gigamaser Galaxy TXS 2226-184 and the Relation between H 1 Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)

GALAXIES: INTERACTIONS

Globular Clusters at High Redshift. R. G. Carlberg. 573, 60 (2002)

A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa. 573, L9 (2002)

INTEGRAL Spectroscopy of IRAS 15206+3342: Gas and Starbursts in an Advanced Merger. Santiago Arribas & Luis Colina. 573, 576 (2002)

An FeLo BAL Binary Quasar. Michael D. Gregg, Robert H. Becker, Richard L. White, Gordon T. Richards, Fred H. Chaffee, & Xiaohui Fan. 573, L85 (2002)

Early Enrichment of the Intergalactic Medium and Its Feedback on Galaxy Formation. Evan Scannapieco, Andrea Ferrara, & Piero Madau. 574, 590 (2002)

LBQS 0015+0239: A Binary Quasar with Small Angular Separation. Chris D. Impey, Cathy E. Petry, Craig B. Foltz, Paul C. Hewett, & Frederic H. Chaffee. 574, 623 (2002)

Binary Aggregations in Hierarchical Galaxy Formation: The Evolution of the Galaxy Luminosity Function. N. Menci, A. Cavaliere, A. Fontana, E. Giallongo, & F. Poli. 575, 18 (2002)

Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)

Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding. 575, 779 (2002)

GALAXIES: INTERGALACTIC MEDIUM

Galaxy Clusters in Hubble Volume Simulations: Cosmological Constraints from Sky Survey Populations. A. E. Evrard, T. J. MacFarland, H. M. P. Couchman, J. M. Colberg, N. Yoshida, S. D. M. White, A. Jenkins, C. S. Frenk, F. R. Pearce, J. A. Peacock, & P. A. Thomas (The Virgo Consortium). 573, 7 (2002)

Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155-304: The Local Filament? Fabrizio Nicastro, Andreas Zezas, Jeremy Drake, Martin Elvis, Fabrizio Fiore, Antonella Fruscione, Massimo Marengo, Smita Mathur, & Stefano Bianchi. 573, 157 (2002)

Chandra Observations of Abell 2029: No Cooling Flow and a Steep Abundance Gradient. Aaron D. Lewis, John T. Stocke, & David A. Buote. 573, L13 (2002)

Losing Weight: A Keck Spectroscopic Survey of the Massive Cluster of Galaxies RX J1347-1145. Judith G. Cohen & Jean-Paul Kneib. 573, 524 (2002)

Hot Bubbles in Cooling Flow Clusters. Noam Soker, Elizabeth L. Blanton, & Craig L. Sarazin. 573, 533 (2002)

A Simple Analytical Model for the Abundance of Damped Ly α Absorbers. T. Roy Choudhury & T. Padmanabhan. 574, 59 (2002)

The Role of a Hot Gas Environment in the Evolution of Galaxies. David Burstein & George Blumenthal. 574, L17 (2002)

Non-Gaussian Features of Transmitted Flux of QSOs' Ly\alpha Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang. 574, 575 (2002)

Early Enrichment of the Intergalactic Medium and Its Feedback on Galaxy Formation. Evan Scannapieco, Andrea Ferrara, & Piero Madau. 574, 590 (2002)

The Search for Intergalactic Hydrogen Clouds in Voids. Curtis V. Manning. 574, 599 (2002)

The Absence of Stars in Compact High-Velocity Clouds. Joshua D. Simon & Leo Blitz. 574, 726 (2002)

Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L111 (2002)

The Local Lyα Forest: Absorbers in Galaxy Voids. Kevin M. McLin, John T. Stocke, R. J. Weymann, Steven V. Penton, & J. Michael Shull. 574, L115 (2002)

The Fate of the First Galaxies. I. Self-consistent Cosmological Simulations with Radiative Transfer. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 33 (2002)

The Fate of the First Galaxies. II. Effects of Radiative Feedback. Massimo Ricotti, Nickolay Y. Gnedin, & J. Michael Shull. 575, 49 (2002)

Prospects for Detection of Intracluster Gas Bulk Velocities through the Sunyaev-Zeldovich Effect. Renato A. Dupke & Joel N. Bregman. 575, 634 (2002)

The Heavy-Element Enrichment of Ly α Clouds in the Virgo Supercluster. T. M. Tripp, E. B. Jenkins, G. M. Williger, S. R. Heap, C. W. Bowers, A. C. Danks, R. Davé, R. F. Green, T. R. Gull, C. L. Joseph, M. E. Kaiser, D. Lindler, R. J. Weymann, & B. E. Woodgate. 575, 697 (2002)

Quantification of Uncertainty in the Measurement of Magnetic Fields in Clusters of Galaxies. William I. Newman, Alice L. Newman, & Yoel Rephaeli. 575, 755 (2002)

Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)

GALAXIES: ISM

- Nobeyama Millimeter Array CO (J = 1–0) Observations of the Hα Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)
- Discovery of High-Latitude CO in an H I Supershell in NGC 5775. S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)
- Ultraviolet Spectra of Star-forming Galaxies with Time-dependent Dust Obscuration. Claus Leitherer, Daniela Calzetti, & Lucimara P. Martins. 574, 114 (2002)
- Inner Molecular Rings in Barred Galaxies: BIMA Survey of Nearby Galaxies CO Observations. Michael W. Regan, Kartik Sheth, Peter J. Teuben, & Stuart N. Vogel. 574, 126 (2002)
- Extended H I Spiral Structure and the Figure Rotation of Triaxial Dark Halos. Kenji Bekki & Kenneth C. Freeman. 574, L21 (2002)
- Very Large Array Detection of Radio Recombination Lines from the Radio Nucleus of NGC 253: Inoization by a Weak Active Galactic Nucleus, an Obscured Super Star Cluster, or a Compact Supernova Remnant? Niruj R. Mohan, K. R. Anantharamaiah, & W. M. Goss. 574, 701 (2002)
- Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)
- Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303.
 Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A.
 Moustakas. 575, 826 (2002)

GALAXIES: JETS

- Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)
- Jet-Triggered Type Ia Supernovae in Radio Galaxies? Alessandro Capetti. 574, L25 (2002)
- The Orientation of Jets Relative to Dust Disks in Radio Galaxies. H. R. Schmitt, J. E. Pringle, C. J. Clarke, & A. L. Kinney. 575, 150 (2002)
- Transformation Properties of External Radiation Fields, Energy-Loss Rates and Scattered Spectra, and a Model for Blazar Variability. *Charles D. Dermer & Reinhard Schlickeiser.* 575, 667 (2002)
- Star Formation Associated with the X-Ray Jet in Centaurus A. John A. Graham & Caleb I. Fassett. 575, 712 (2002)

GALAXIES: KINEMATICS AND DYNAMICS

- Nobeyama Millimeter Array CO (J = 1-0) Observations of the H α Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)
- Extended H | Spiral Structure and the Figure Rotation of Triaxial Dark Halos. Kenji Bekki & Kenneth C. Freeman. 574, L21 (2002)
- Lensing Property of Cored Galaxy Models. N. W. Evans & C. Hunter. 575, 68 (2002)
- The Internal Structure and Formation of Early-Type Galaxies: The Gravitational Lens System MG 2016+112 at z = 1.004. *Tommaso Treu & Leon V. E. Koopmans.* 575, 87 (2002)
- Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- Deep CCD Surface Photometry of Galaxy Clusters. I. Methods and Initial Studies of Intracluster Starlight. John J. Feldmeier, J. Christopher Mihos, Heather L. Morrison, Steven A. Rodney, & Paul Harding. 575, 779 (2002)
- H\alpha Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)
- Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)
- Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303.
 Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A.
 Moustakas. 575, 826 (2002)

GALAXIES: LOCAL GROUP

The Absence of Stars in Compact High-Velocity Clouds. Joshua D. Simon & Leo Blitz. 574, 726 (2002)

GALAXIES: LUMINOSITY FUNCTION, MASS FUNCTION

- Analytic Approach to the Cloud-in-Cloud Problem for Non-Gaussuian Density Fluctuations. Kaiki Taro Inoue & Masahiro Nagashima. 574, 9 (2002)
- The Luminosity Functions and Stellar Masses of Galactic Disks and Speroids. A. J. Benson, C. S. Frenk, & R. M. Sharples. 574, 104 (2002)

GALAXIES: MAGELLANIC CLOUDS

- The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII.
 Three Cepheid Variables in Eclipsing Binaries. C. Alcock, R. A. Allsman, D. R. Alves, A. C. Becker, D. P. Bennett, K. H. Cook, A. J. Drake, K. C. Freeman, K. Griest, S. L. Hawley, S. Keller, M. J. Lehner, D. Lepischak, S. L. Marshall, D. Minniti, C. A. Nelson, B. A. Peterson, P. Popowski, M. R. Pratt, P. J. Quinn, A. W. Rodgers, N. Suntzeff, W. Sutherland, T. Vandehei, & D. L. Welch (The MACHO Collaboration). 573, 338 (2002)
- Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)
- On the Distance of Magellanic Clouds: First Overtone Cepheids. G. Bono, M. A. T. Groenewegen, M. Marconi, & F. Caputo. 574, L33 (2002)
- A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)
- Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- Slitless Spectroscopy of Large Magellanic Cloud Planetary Nebulae: A Study of the Emission Lines and Morphology. Letizia Stanghellini, Richard A. Shaw, Max Mutchler, Stacy Palen, Bruce Balick, & J. Chris Blades. 575, 178 (2002)

GALAXIES: NUCLEI

- INTEGRAL Spectroscopy of IRAS 15206+3342: Gas and Starbursts in an Advanced Merger. Santiago Arribas & Luis Colina. 573, 576 (2002)
- H I Absorption in the Gigamaser Galaxy TXS 2226-184 and the Relation between H I Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
- The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy. Shai Kaspi, W. N. Brandt, Ian M. George, Hagai Netzer, D. Michael Crenshaw, Jack R. Gabel, Frederick W. Hamann, Mary Elizabeth Kaiser, Anuradha Koratkar, Steven B. Kraemer, Gerard A. Kriss, Smita Mathur, Richard F. Mushotzky, Kirpal Nandra, Bradley M. Peterson, Joseph C. Shields, T. J. Turner, & Wei Zheng, 574, 643 (2002)
- Very Large Array Detection of Radio Recombination Lines from the Radio Nucleus of NGC 253: Inoization by a Weak Active Galactic Nucleus, an Obscured Super Star Cluster, or a Compact Supernova Remnant? Niruj R. Mohan, K. R. Anantharamaiah, & W. M. Goss. 574, 701 (2002)
- The Slope of the Black Hole Mass versus Velocity Dispersion Correlation. Scott Tremaine, Karl Gebhardt, Ralf Bender, Gary Bower, Alan Dressler, S. M. Faber, Alexei V. Filippenko, Richard Green, Carl Grillmair, Luis C. Ho, John Kormendy, Tod R. Lauer, John Magorrian, Jason Pinkney, & Douglas Richstone. 574, 740 (2002)
- Narrow Components within the Fe Kα Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects. T. J. Turner, R. F. Mushotzky, T. Yaqoob, I. M. George, S. L. Snowden, H. Netzer, S. B. Kraemer, K. Nandra, & D. Chelouche. 574, L123 (2002)
- Two-Temperature Coronal Flow above a Thin Disk. B. F. Liu, S. Mineshige, F. Meyer, E. Meyer-Hofmeister, & T. Kawaguchi. 575, 117 (2002)
- The Orientation of Jets Relative to Dust Disks in Radio Galaxies. H. R. Schmitt, J. E. Pringle, C. J. Clarke, & A. L. Kinney. 575, 150 (2002)
- Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. Tohru Nagao, Takashi Murayama, Yasuhiro Shioya, & Yoshiaki Taniguchi. 575, 721 (2002)
- Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)
- Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303.
 Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A.
 Moustakas. 575, 826 (2002)

Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)

GALAXIES: PHOTOMETRY

Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)

A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa. 573, L9 (2002)

The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)

GALAXIES: QUASARS: ABSORPTION LINES

Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155—304: The Local Filament? Fabrizio Nicastro, Andreas Zezas, Jeremy Drake, Martin Elvis, Fabrizio Fiore, Antonella Fruscione, Massimo Marengo, Smita Mathur, & Stefano Bianchi. 573, 157 (2002)

Discovery of an Ionized Fe K Edge in the z = 3.91 Broad Absorption Line Quasar APM 08279+5255 with XMM-Newton. G. Hasinger, N. Schartel,

& S. Komossa. 573, L77 (2002)

An FeLo BAL Binary Quasar. Michael D. Gregg, Robert H. Becker, Richard L. White, Gordon T. Richards, Fred H. Chaffee, & Xiaohui Fan. 573, L85 (2002)

Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)

A Simple Analytical Model for the Abundance of Damped Lyα Absorbers. T. Roy Choudhury & T. Padmanabhan. 574, 59 (2002)

Non-Gaussian Features of Transmitted Flux of QSOs' Lyα Absorption: Intermittent Exponent. Jesus Pando, Long-Long Feng, Priya Jamkhedkar, Wei Zheng, David Kirkman, David Tytler, & Li-Zhi Fang, 574, 575 (2002)

The Search for Intergalactic Hydrogen Clouds in Voids. Curtis V. Manning. 574, 599 (2002)

LBQS 0015+0239: A Binary Quasar with Small Angular Separation. Chris D. Impey, Cathy E. Petry, Craig B. Foltz, Paul C. Hewett, & Frederic H. Chaffee. 574, 623 (2002)

Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L111 (2002)

The Local Lyα Forest: Absorbers in Galaxy Voids. Kevin M. McLin, John T. Stocke, R. J. Weymann, Steven V. Penton, & J. Michael Shull. 574, L115 (2002)

Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)

The Heavy-Element Enrichment of Lyα Clouds in the Virgo Supercluster. T. M. Tripp, E. B. Jenkins, G. M. Williger, S. R. Heap, C. W. Bowers, A. C. Danks, R. Davé, R. F. Green, T. R. Gull, C. L. Joseph, M. E. Kaiser, D. Lindler, R. J. Weymann, & B. E. Woodgate. 575, 697 (2002)

GALAXIES: QUASARS: EMISSION LINES

LBQS 0015+0239: A Binary Quasar with Small Angular Separation. Chris D. Impey, Cathy E. Petry, Craig B. Foltz, Paul C. Hewett, & Frederic H. Chaffee. 574, 623 (2002)

Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)

Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. Tohru Nagao, Takashi Murayama, Yasuhiro Shioya, & Yoshiaki Taniguchi. 575, 721 (2002)

GALAXIES: QUASARS: GENERAL

Extreme X-Ray Iron Lines in Active Galactic Nuclei. N. A. Levenson, J. H. Krolik, P. T. Zycki, T. M. Heckman, K. A. Weaver, H. Awaki, & Y. Terashima. 573, L81 (2002)

An FeLo BAL Binary Quasar. Michael D. Gregg, Robert H. Becker, Richard L. White, Gordon T. Richards, Fred H. Chaffee, & Xiaohui Fan. 573, L85 (2002)

Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)

Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002) Transformation Properties of External Radiation Fields, Energy-Loss Rates and Scattered Spectra, and a Model for Blazar Variability. Charles D. Dermer & Reinhard Schlickeiser. 575, 667 (2002)

GALAXIES: QUASARS: INDIVIDUAL

Alphanumeric: 2233.9+1318

Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)

Alphanumeric: APM 08279+5255

Discovery of an Ionized Fe K Edge in the z = 3.91 Broad Absorption Line Quasar APM 08279+5255 with XMM-Newton. G. Hasinger, N. Schartel, & S. Komossa. 573, L77 (2002)

Alphanumeric: 3C 273

The Heavy-Element Enrichment of Lyα Clouds in the Virgo Supercluster. T. M. Tripp, E. B. Jenkins, G. M. Williger, S. R. Heap, C. W. Bowers, A. C. Danks, R. Davé, R. F. Green, T. R. Gull, C. L. Joseph, M. E. Kaiser, D. Lindler, R. J. Weymann, & B. E. Woodgate. 575, 697 (2002)

Alphanumeric: 3C 279

Circular Polarization from Stochastic Synchrotron Sources. Mateusz Ruszkowski & Mitchell C. Begelman. 573, 485 (2002)

Alphanumeric: 3C 323.1

X-Ray Spectra of Intermediate-Luminosity, Radio-loud Quasars. Christina A. Hasenkopf, Rita M. Sambruna, & Michael Eracleous. 575, 127 (2002)

Alphanumeric: 3C 351

Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the *Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss.* 575, 687 (2002)

Alphanumeric: 4C 74.26

X-Ray Spectra of Intermediate-Luminosity, Radio-loud Quasars. Christina A. Hasenkopf, Rita M. Sambruna, & Michael Eracleous. 575, 127 (2002)

Alphanumeric: PKS 0528-250

Are High-Redshift Damped Lyα Galaxies Lyman Break Galaxies? P. Møller, S. J. Warren, S. M. Fall, J. U. Fynbo, & P. Jakobsen. 574, 51 (2002)

Alphanumeric: PKS 1830-211

Cosmic Alignment toward the Radio Einstein Ring PKS 1830–211? F. Courbin, G. Meylan, J. P. Kneib, & C. Lidman. 575, 95 (2002)

PKS 1830–211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)

Alphanumeric: PKS 2349-014

X-Ray Spectra of Intermediate-Luminosity, Radio-loud Quasars. Christina A. Hasenkopf, Rita M. Sambruna, & Michael Eracleous. 575, 127 (2002)

Alpahnumeric: PMN J0134-0931

The Redshift of a Lensing Galaxy in PMN J0134–0931. Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton, David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann. 575, L51 (2002)

Alphanumeric: PSS J2322+1944

Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944. C. L. Carilli, P. Cox, F. Bertoldi, K. M. Menten, A. Omont, S. G. Djorgovski, A. Petric, A. Beelen, K. G. Isaak, & R. G. McMahon. 575, 145 (2002)

Alphanumeric: QSO 0208-512

Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002)

Alphanumeric: QSO 0521-365

Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002)

Alphanumeric: QSO 0957+561

A Large Brightness Enhancement of the QSO 0957+561 A Component. A. Oscoz, D. Alcalde, M. Serra-Ricart, E. Mediavilla, & J. A. Muñoz. 573, L1 (2002)

Alphanumeric: QSO 1641+399

Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti,

L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002)

Alphanumeric: QSO 2223-052

Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002)

Alphanumeric: QSO 2243-123

Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002)

Alphanumeric: QSO 2251+158

Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002)

Alphanumeric: SBS 0909+532

Direction of the 2175 A Extinction Feature at z = 0.83. V. Motta, E. Mediavilla, J. A. Muñoz, E. Falco, C. S. Kochanek, S. Arribas, B. García-Lorenzo, A. Oscoz, & M. Serra-Ricart. 574, 719 (2002)

GALAXIES: SEYFERT

- NGC 4151: An Intrinsically Average Seyfert 1. Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)
- Extreme X-Ray Iron Lines in Active Galactic Nuclei. N. A. Levenson, J. H. Krolik, P. T. Zycki, T. M. Heckman, K. A. Weaver, H. Awaki, & Y. Terashima. 573, L81 (2002)
- Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)
- The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy. Shai Kaspi, W. N. Brandt, Ian M. George, Hagai Netzer, D. Michael Crenshaw, Jack R. Gabel, Frederick W. Hamann, Mary Elizabeth Kaiser, Anuradha Koratkar, Steven B. Kraemer, Gerard A. Kriss, Smita Mathur, Richard F. Mushotzky, Kirpal Nandra, Bradley M. Peterson, Joseph C. Shields, T. J. Turner, & Wei Zheng. 574, 643 (2002)
- Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)
- Narrow Components within the Fe Kα Profile of NGC 3516: Evidence of the Importance of the General Relativistic Effects. T. J. Turner, R. F. Mushotzky, T. Yaqoob, I. M. George, S. L. Snowden, H. Netzer, S. B. Kraemer, K. Nandra, & D. Chelouche. 574, L123 (2002)
- Gas Metallicity of Narrow-Line Regions in Narrow-Line Seyfert 1 Galaxies and Broad-Line Seyfert 1 Galaxies. Tohru Nagao, Takashi Murayama, Yasuhiro Shioya, & Yoshiaki Taniguchi. 575, 721 (2002)
- XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068. Ali Kinkhabwala, Masao Sako, Ehud Behar, Steven M. Kahn, Frits Paerels, Albert C. Brinkman, Jelle S. Kaastra, Ming Feng Gu, & Duane A. Liedahl. 575, 732 (2002)

GALAXIES: SPIRAL

- Nobeyama Millimeter Array CO (*J* = 1–0) Observations of the Hα Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. *J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin.* 573, 105 (2002)
- Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)
- A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies.
 R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)
- Discovery of High-Latitude CO in an H I Supershell in NGC 5775. S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)
- The Luminosity Functions and Stellar Masses of Galactic Disks and Speroids. A. J. Benson, C. S. Frenk, & R. M. Sharples. 574, 104 (2002)
- Extended H I Spiral Structure and the Figure Rotation of Triaxial Dark Halos. Kenji Bekki & Kenneth C. Freeman. 574, L21 (2002)

GALAXIES: STARBURST

- Optically Faint Counterparts to the *Infrared Space Observatory* FIRBACK 170 Micron Population: Discovery of Cold, Luminous Galaxies at High Redshift. S. C. Chapman, I. Smail, R. J. Ivison, G. Helou, D. A. Dale, & G. Lagache. 573, 66 (2002)
- A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies.
 R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)
- Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)
- INTEGRAL Spectroscopy of IRAS 15206+3342: Gas and Starbursts in an Advanced Merger. Santiago Arribas & Luis Colina. 573, 576 (2002)
- ¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)
- Ultraviolet Spectra of Star-forming Galaxies with Time-dependent Dust Obscuration. Claus Leitherer, Daniela Calzetti, & Lucimara P. Martins. 574, 114 (2002)
- The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)
- Very Large Array Detection of Radio Recombination Lines from the Radio Nucleus of NGC 253: Inoization by a Weak Active Galactic Nucleus, an Obscured Super Star Cluster, or a Compact Supernova Remnant? Niruj R. Mohan, K. R. Anantharamaiah, & W. M. Goss. 574, 701 (2002)
- The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón. & J. M. Rodríguez Espinosa. 574, 709 (2002)
- Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944. C. L. Carilli, P. Cox, F. Bertoldi, K. M. Menten, A. Omont, S. G. Djorgovski, A. Petric, A. Beelen, K. G. Isaak, & R. G. McMahon. 575, 145 (2002)
- Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)
- Molecular Gas in Candidate Double-Barred Galaxies. I. The Diverse Morphology and Dynamics of NGC 2273 and NGC 5728. Glen R. Petitpas & Christine D. Wilson. 575, 814 (2002)
- Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)

GALAXIES: STAR CLUSTERS

Globular Clusters at High Redshift. R. G. Carlberg. 573, 60 (2002)

- Chemodynamic Evolution of Globular Cluster Systems. Yoshihiko Saito & Masanori Iye. 573, 122 (2002)
- The Low-Mass X-Ray Binary-Globular Cluster Connection in NGC 4472.
 Arunav Kundu, Thomas J. Maccarone, & Stephen E. Zepf. 574, L5 (2002)
- A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)

GALAXIES: STELLAR CONTENT

- Constraining Cosmological Parameters Based on Relative Galaxy Ages. Raul Jimenez & Abraham Loeb. 573, 37 (2002)
- Ultraviolet Spectra of Star-forming Galaxies with Time-dependent Dust Obscuration. Claus Leitherer, Daniela Calzetti, & Lucimara P. Martins. 574, 114 (2002)
- Star Formation Associated with the X-Ray Jet in Centaurus A. John A. Graham & Caleb I. Fassett. 575, 712 (2002)
- Extragalactic Globular Cluster Planetary Nebulae: Discovery of a Planetary Nebula in the NGC 5128 Globular Cluster G169 Using the Magellan I Baade Telescope. *Dante Minniti & Marina Rejkuba*. 575, L59 (2002)

GALAXIES: STRUCTURE

Nobeyama Millimeter Array CO (J = 1–0) Observations of the Hα Radio Lobe Galaxy NGC 3079: Gas Dynamics in a Weak Bar Potential and Central Massive Core. J. Koda, Y. Sofue, K. Kohno, H. Nakanishi, S. Onodera, S. K. Okumura, & Judith A. Irwin. 573, 105 (2002)

- Nuclear Stellar Disks in Spiral Galaxies. A. Pizzella, E. M. Corsini, L. Morelli, M. Sarzi, C. Scarlata, M. Stiavelli, & F. Bertola. 573, 131 (2002)
- A Correlation between Light Concentration and Cluster Local Density for Eliptical Galaxies. I. Trujillo, J. A. L. Aguerri, C. M. Gutiérrez, N. Caon, & J. Cepa. 573, L9 (2002)
- Inner Molecular Rings in Barred Galaxies: BIMA Survey of Nearby Galaxies CO Observations. Michael W. Regan, Kartik Sheth, Peter J. Teuben, & Stuart N. Vogel. 574, 126 (2002)
- The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)
- Size and Structure of the Narrow-Line Region of Quasars. Bennert Nicola, Falcke Heino, Schultz Hartmut, Andrew S. Wilson, & Beverley J. Wills. 574, L105 (2002)
- The Dark Matter Profile of the Lensing Cluster MS 2137-23: A Test of the Cold Dark Matter Paradigm. David J. Sand, Tommaso Treu, & Richard S. Ellis. 574, L129 (2002)
- Lensing Property of Cored Galaxy Models. N. W. Evans & C. Hunter. 575, 68 (2002)
- The Internal Structure and Formation of Early-Type Galaxies: The Gravitational Lens System MG 2016+112 at z = 1.004. Tommaso Treu & Leon V. E. Koopmans. 575, 87 (2002)
- The Orientation of Jets Relative to Dust Disks in Radio Galaxies. H. R. Schmitt, J. E. Pringle, C. J. Clarke, & A. L. Kinney. 575, 150 (2002)
- Gasdynamics in NGC 5248: Fueling a Circumnuclear Starburst Ring of Super-Star Clusters. Shardha Jogee, Isaac Shlosman, Seppo Laine, Peter Englmaier, Johan H. Knapen, Nick Scoville, & Christine D. Wilson. 575, 156 (2002)
- H\u03b2 Rotation Curves: The Soft Core Question. Danilo Marchesini, Elena D'Onghia, Guido Chincarini, Claudio Firmani, Paolo Conconi, Emilio Molinari, & Andrea Zacchei. 575, 801 (2002)

GALAXY: ABUNDANCES

Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs. Masahide Takada-Hidai, Yoichi Takeda, Shizuka Sato, Satoshi Honda, Kozo Sadakane, Satoshi Kawanomoto, Wallace L. W. Sargent, Limin Lu, & Thomas A. Barlow. 573, 614 (2002)

GALAXY: BULGE

The Slope of the Black Hole Mass versus Velocity Dispersion Correlation. Scott Tremaine, Karl Gebhardt, Ralf Bender, Gary Bower, Alan Dressler, S. M. Faber, Alexei V. Filippenko, Richard Green, Carl Grillmair, Luis C. Ho, John Kornendy, Tod R. Lauer, John Magorrian, Jason Pinkney, & Douglas Richstone. 574, 740 (2002)

GALAXY: CENTER

- X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with Chandra. Shin-ichiro Takagi, Hiroshi Murakami, & Katsuji Koyama. 573, 275 (2002)
- Spin-induced Disk Precession in the Supermassive Black Hole at the Galactic Center. Siming Liu & Fulvio Melia. 573, L23 (2002)
- Circular Polarization from Stochastic Synchrotron Sources. Mateusz Ruszkowski & Mitchell C. Begelman. 573, 485 (2002)
- A Thermal Bremsstrahlung Model for the Quiescent X-Ray Emission from Sagittarius A*. Eliot Quataert. 575, 855 (2002)
- Spatially Resolved Observations of the Galactic Center Source IRS 21.
 A. Tanner, A. M. Ghez, M. Morris, E. E. Becklin, A. Cotera, M. Ressler, M. Werner, & P. Wizinowich. 575, 860 (2002)

GALAXY: DISK

An Upper Limit to the Age of the Galactic Bar. Andrew A. Cole & Martin D. Weinberg. 574, L43 (2002)

GALAXY: EVOLUTION

- Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs. Masahide Takada-Hidai, Yoichi Takeda, Shizuka Sato, Satoshi Honda, Kozo Sadakane, Satoshi Kawanomoto, Wallace L. W. Sargent, Limin Lu, & Thomas A. Barlow. 573, 614 (2002)
- Deciphering the Last Major Invasion of the Milky Way. Gerard Gilmore, Rosemary F.G. Wyse, & John E. Norris. 574, L39 (2002)

GALAXY: FORMATION

Cosmic-Ray Production of ⁶Li by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation. *Takeru Ken Suzuki & Susumu Inoue*. 573, 168 (2002)

- Remnants of the Sagittarius Dwarf Spheroidal Galaxy around the Young Globular Cluster Palomar 12. D. Martínez-Delgado, R. Zinn, R. Carrera, & C. Gallart. 573, L19 (2002)
- Deciphering the Last Major Invasion of the Milky Way. Gerard Gilmore, Rosemary F.G. Wyse, & John E. Norris. 574, L39 (2002)
- Detection of the He II Reionization in the Sloan Digital Sky Survey Quasar Sample. Tom Theuns, Mariangela Bernardi, Joshua Frieman, Paul Hewett, Joop Schaye, Ravi K. Sheth, & Mark Subbarao. 574, L111 (2002)

GALAXY: FUNDAMENTAL PARAMETERS

Astrometry Survey Missions beyond the Magnitude Limit. Samir Salim, Andrew Gould, & Rob P. Olling. 573, 631 (2002)

GALAXY: GLOBULAR CLUSTERS: GENERAL

Globular Clusters at High Redshift. R. G. Carlberg. 573, 60 (2002)

- Chemodynamic Evolution of Globular Cluster Systems. Yoshihiko Saito & Masanori Iye. 573, 122 (2002)
- A Comprehensive Study of Neutron Star Retention in Globular Clusters. Eric Pfahl, Saul Rappaport, & Philipp Podsiadlowski. 573, 283 (2002)
- The Low-Mass X-Ray Binary-Globular Cluster Connection in NGC 4472.
 Arunav Kundu, Thomas J. Maccarone, & Stephen E. Zepf. 574, L5 (2002)
- Extragalactic Globular Cluster Planetary Nebulae: Discovery of a Planetary Nebula in the NGC 5128 Globular Cluster G169 Using the Magellan I Baade Telescope. Dante Minniti & Marina Rejkuba. 575, L59 (2002)

GALAXY: GLOBULAR CLUSTERS: INDIVIDUAL

Messier Number: M4

- The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4. Harvey B. Richer, James Brewer, Gregory G. Fahlman, Brad K. Gibson, Brad M. Hansen, Rodrigo Ibata, Jasonjot S. Kalirai, Marco Limongi, R. Michael Rich, Ivo Saviane, Michael M. Shara, & Peter B. Stetson. 574, L151 (2002)
- The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.

 Brad M. S. Hansen, James Brewer, Greg G. Fahlman, Brad K. Gibson,
 Rodrigo Ibata, Marco Limongi, R. Michael Rich, Harvey B. Richer,
 Michael M. Shara, & Peter B. Stetson. 574, L155 (2002)

NGC Number: NGC 6440

Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions. David Pooley, Walter H. G. Lewin, Frank Verbunt, Lee Homer, Bruce Margon, Bryan M. Gaensler, Victoria M. Kaspi, Jon M. Miller, Derek W. Fox, & Michiel van der Klis. 573, 184 (2002)

Name: ω Centauri

Discovery of an Accreted Stellar System within the Globular Cluster ω Centauri. F. R. Ferraro, M. Bellazzini, & E. Pancino. 573, L95 (2002)

Name: Palomar 12

Remnants of the Sagittarius Dwarf Spheroidal Galaxy around the Young Globular Cluster Palomar 12. D. Martínez-Delgado, R. Zinn, R. Carrera, & C. Gallart. 573, L19 (2002)

Name: Palomar 13

Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)

Name: 47 Tucanae

Resolving the 47 Tucanae Distance Problem. Susan M. Percival, Maurizio Salaris, Francois van Wyk, & David Kilkenny. 573, 174 (2002)

Alphanumeric: R136

A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)

GALAXY: HALO

- Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155—304: The Local Filament? Fabrizio Nicastro, Andreas Zezas, Jeremy Drake, Martin Elvis, Fabrizio Fiore, Antonella Fruscione, Massimo Marengo, Smita Mathur, & Stefano Bianchi. 573, 157 (2002)
- Cosmic-Ray Production of ⁶Li by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation. Takeru Ken Suzuki & Susumu Inoue. 573, 168 (2002)
- Remnants of the Sagittarius Dwarf Spheroidal Galaxy around the Young Globular Cluster Palomar 12. D. Martínez-Delgado, R. Zinn, R. Carrera, & C. Gallart. 573, L19 (2002)
- Astrometry Survey Missions beyond the Magnitude Limit. Samir Salim, Andrew Gould, & Rob P. Olling. 573, 631 (2002)

- A Proper-Motion Survey fer White Dwarfs with the Wide Field Planetary Camera 2. C. A. Nelson, K. H. Cook, T. S. Axelrod, J. R. Mould, & C. Alcock. 573, 644 (2002)
- Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)
- The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.

 Brad M. S. Hansen, James Brewer, Greg G. Fahlman, Brad K. Gibson,
 Rodrigo Ibata, Marco Limongi, R. Michael Rich, Harvey B. Richer,
 Michael M. Shara, & Peter B. Stetson. 574, L155 (2002)
- High-Velocity Clouds as a Probe of the Global Structure of the Gaseous Galactic Halo. J. Espresate, J. Canto, & Jose Franco. 575, 194 (2002)
- Absolute Proper Motions to B ~ 22.5. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter. Dana I. Dinescu, Steven R. Majewski, Terrence M. Girard, René A. Méndez, Allan Sandage, Michael H. Siegel, William E. Kunkel, John P. Subasavage, & Jamie Ostheimer. 575, L67 (2002)

GALAXY: KINEMATICS AND DYNAMICS

- Cosmic-Ray Production of ⁶Li by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation. *Takeru Ken Suzuki & Susumu Inoue*. 573, 168 (2002)
- Deciphering the Last Major Invasion of the Milky Way. Gerard Gilmore, Rosemary F.G. Wyse, & John E. Norris. 574, L39 (2002)
- The Slope of the Black Hole Mass versus Velocity Dispersion Correlation. Scott Tremaine, Karl Gebhardt, Ralf Bender, Gary Bower, Alan Dressler, S. M. Faber, Alexei V. Filippenko, Richard Green, Carl Grillmair, Luis C. Ho, John Kormendy, Tod R. Lauer, John Magorrian, Jason Pinkney, & Douglas Richstone. 574, 740 (2002)
- Palomar 13: An Unusual Stellar System in the Galactic Halo. Patrick Côté, S. G. Djorgovski, G. Meylan, Sandra Castro, & J. K. McCarthy. 574, 783 (2002)

GALAXY: OPEN CLUSTERS AND ASSOCIATIONS: INDIVIDUAL

NGC Number: NGC 1333

Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)

NGC Number: NGC 3603

Galactic Starburst NGC 3603 from X-Rays to Radio. A. F. J. Moffat, M. F. Corcoran, I. R. Stevens, G. Skalkowski, S. V. Marchenko, A. Mücke, A. Ptak, B. S. Koribalski, L. Brenneman, R. Mushotzky, J. M. Pittard, A. M. T. Pollock, & W. Brandner. 573, 191 (2002)

Name: TW Hydrae

Brown Dwarfs and the TW Hydrae Association. John E. Gizis. 575, 484 (2002)

Name: Orion Nebula Cluster

X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)

Name: β Pictoris

The Origin of the β Pictoris Moving Group. V. G. Ortega, R. de la Reza, E. Jilinski, & B. Bazzanella. 575, L75 (2002)

Name: Scorpius-Centaurus

The Origin of the β Pictoris Moving Group. V. G. Ortega, R. de la Reza, E. Jilinski, & B. Bazzanella. 575, L75 (2002)

Name: Trapezium

The Luminosity and Mass Function of the Trapezium Cluster: from B Stars to the Deuterium-burning Limit. August A. Muench, Elizabeth A. Lada, Charles J. Lada, & João Alves. 573, 366 (2002)

Alphanumeric: IC 2944

Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)

GALAXY: SOLAR NEIGHBORHOOD

The Velocity Distribution of the Nearest Interstellar Gas. Priscilla C. Frisch, Lauren Grodnicki, & Daniel E. Welty. 574, 834 (2002)

GALAXY: STELLAR CONTENT

Deciphering the Last Major Invasion of the Milky Way. Gerard Gilmore, Rosemary F.G. Wyse, & John E. Norris. 574, L39 (2002)

GALAXY: STRUCTURE

- Remnants of the Sagittarius Dwarf Spheroidal Galaxy around the Young Globular Cluster Palomar 12. D. Martínez-Delgado, R. Zinn, R. Carrera, & C. Gallart. 573, L19 (2002)
- ALCDM-based Models for the Milky Way and M31. I. Dymanical Models.

 Anatoly Klypin, HongShen Zhao, & Rachel S. Sommerville. 573, 597 (2002)
- A Proper-Motion Survey for White Dwarfs with the Wide Field Planetary Camera 2. C. A. Nelson, K. H. Cook, T. S. Axelrod, J. R. Mould, & C. Alcock. 573, 644 (2002)
- Deciphering the Last Major Invasion of the Milky Way. Gerard Gilmore, Rosemary F.G. Wyse, & John E. Norris. 574, L39 (2002)
- An Upper Limit to the Age of the Galactic Bar. Andrew A. Cole & Martin D. Weinberg. 574, L43 (2002)
- Magnetohydrodynamic Turbulence as a Foreground for Cosmic Microwave Background Studies. *Jungyeon Cho & A. Lazarian.* 575, L63 (2002)
- Absolute Proper Motions to $B \sim 22.5$. V. Detection of Sagittarius Dwarf Spheroidal Debris in the Direction of the Galactic Anticenter. Dana I. Dinescu, Steven R. Majewski, Terrence M. Girard, René A. Méndez, Allan Sandage, Michael H. Siegel, William E. Kunkel, John P. Subasavage, & Jamie Ostheimer. 575. L67 (2002)

GAMMA RAYS: BURSTS

- The Decline of the Source Population of Gamma-Ray Bursts and Their Luminosity Function. B. E. Stern, Ya. Tikhomirova, & R. Svensson. 573, 75 (2002)
- The Unusually Long Duration Gamma-Ray Burst GRB 000911: Discovery of the Afterglow and Host Galaxy. P. A. Price, E. Berger, S. R. Kulkarni, S. G. Djorgovski, D. W. Fox, A. Mahabal, K. Hurley, J. S. Bloom, D. A. Frail, T. J. Galama, F. A. Harrison, G. Morrison, D. E. Reichart, S. A. Yost, R. Sari, T. S. Axelrod, T. Cline, S. Golenetskii, E. Mazets, B. P. Schmidt, & J. Trombka. 573, 85 (2002)
- Implications of Neutron Decoupling in Short Gamma-Ray Bursts. Jason Pruet & Neal Dalal. 573, 770 (2002)
- Neutrino, Neutron, and Cosmic-Ray Production in the External Shock Model of Gamma-Ray Bursts. *Charles D. Dermer.* 574, 65 (2002)
- Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)
- Electrodynamics of Magnetars: Implications for the Persistent X-Ray Emission and Spin-down of the Soft Gamma Repeaters and Anomalous X-Ray Pulsars. C. Thompson, M. Lyutikov, & S. R. Kulkarni. 574, 332 (2002)
- Evidence for Postquiescent, High-Energy Emission from Gamma-Ray Burst 990104. D. N. Wren, D. L. Bertsch, & S. Ritz. 574, L47 (2002)
- Cosmological Aspects of Gamma-Ray Bursts: Luminosity Evolution and an Estimate of the Star Formation Rate at High Redshifts. Nicole M. Lloyd-Ronning, Chris L. Fryer, & Enrico Ramirez-Ruiz. 574, 554 (2002)
- Collective Processes in Relativistic Plasma and Their Implications for Gamma-Ray Burst Afterglows. Amir Sagiv & Eli Waxman. 574, 861 (2002)
- Solar Submillimeter and Gamma-Ray Burst Emission. P. Kaufmann, J.-P. Raulin, A. M. Melo, E. Correia, J. E. R. Costa, C. G. Giménez de Castro, A. V. R. Silva, M. Yoshimori, H. S. Hudson, W. Q. Gan, D. E. Gary, P. T. Gallagher, H. Levato, A. Marun, & M. Rovira. 574, 1059 (2002)
- The Expected Redshift Distribution of Gamma-Ray Bursts. Volker Bromm & Abraham Loeb. 575, 111 (2002)
- Cosmological Microlensing Statistics: Variability Rates for Quasars and Gamma-Ray Burst Afterglows and Implications for Macrolensing Magnification Bias and Flux Ratios. J. S. B. Wyithe & Edwin L. Turner. 575, 650 (2002)
- Transformation Properties of External Radiation Fields, Energy-Loss Rates and Scattered Spectra, and a Model for Blazar Variability. Charles D. Dermer & Reinhard Schlickeiser. 575, 667 (2002)
- Discovery of a Black Hole Mass-Period Correlation in Soft X-Ray Transients and Its Implication for Gamma-Ray Burst and Hypernova Mechanisms. C.-H. Lee, G. E. Brown, & R. A. M. J. Wijers. 575, 996 (2002)
- LIGO/VIRGO Searches for Gravitational Radiation in Hypernovae. Maurice H. P. M. van Putten. 575, L71 (2002)

GAMMA RAYS: OBSERVATIONS

- The Next Geminga: Deep Multiwavelength Observations of a Neutron Star Identified with 3EG J1835+5918. J. P. Halpern, E. V. Gotthelf, N. Mirabal, & F. Camilo. 573, L41 (2002)
- Evidence for Postquiescent, High-Energy Emission from Gamma-Ray Burst 990104. D. N. Wren, D. L. Bertsch, & S. Ritz. 574, L47 (2002)

Is the EGRET Source 3EG J1621+8203 the Radio Galaxy NGC 6251?
R. Mukherjee, J. Halpern, N. Mirabal, & E. V. Gotthelf. 574, 693 (2002)

Discovery of Spectral Variability of Markarian 421 at TeV Energies. F. Krennrich, I. H. Bond, S. M. Bradbury, J. H. Buckley, D. A. Carter-Lewis, W. Cui, I. de la Calle Perez, D. J. Fegan, J. P. Finley, J. A. Gaidos, K. Gibbs, G. H. Gillanders, T. A. Hall, A. M. Hillas, J. Holder, D. Horan, M. Jordan, M. Kertzman, D. Kieda, J. Kildea, J. Knapp, K. Kosack, M. J. Lang, S. LeBohec, P. Moriarty, D. Müller, R. A. Ong, R. Pallassini, D. Petry, J. Quinn, N. W. Reay, P. T. Reynolds, H. J. Rose, G. H. Sembroski, R. Sidwell, N. Stanton, S. P. Swordy, V. V. Vassiliev, S. P. Wakely, & T. C. Weekes. 575, L.9 (2002)

GAMMA RAYS: THEORY

Neutrino, Neutron, and Cosmic-Ray Production in the External Shock Model of Gamma-Ray Bursts. Charles D. Dermer. 574, 65 (2002)

The Guaranteed Gamma-Ray Background. Vasiliki Pavliduo & Brian D. Fields. 575, L5 (2002)

LIGO/VIRGO Searches for Gravitational Radiation in Hypernovae. Maurice H. P. M. van Putten. 575, L71 (2002)

GRAVITATION

Spin-induced Disk Precession in the Supermassive Black Hole at the Galactic Center. Siming Liu & Fulvio Melia. 573, L23 (2002)

The Light Cone Effect on the Shapiro Time Delay. *Hideki Asada*. 574, L69 (2002)

Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8-2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)

Parameter Estimation for Galactic Binaries by the Laser Interferometer Space Antenna. Ryuichi Takahashi & Naoki Seto. 575, 1030 (2002)

GRAVITATIONAL LENSING

Systematic Effects on Tangential and Radial Arc Statistics: The Finite Source Size and Ellipticities of the Lens and Source. *Masamune Oguri.* 573, 51 (2002)

Effect of a Wide Binary Companion to the Lens on the Astrometric Behavior of Gravitational Microlensing Events. *Jin H. An & Cheongho Han.* 573, 351 (2002)

A Large Brightness Enhancement of the QSO 0957+561 A Component. A. Oscoz, D. Alcalde, M. Serra-Ricart, E. Mediavilla, & J. A. Muñoz. 573, L1 (2002)

Probing the Mass Distribution in Groups of Galaxies using Gravitational Lensing. Ole Möller, Priyamvada Natarajan, Jean-Paul Kneib, & A. W. Blain. 573, 562 (2002)

Perturbative Approach to the Astrometric Microlensing Due to an Extrasolar Planet. *Hideki Asada*. 573, 825 (2002)

Second-Order Corrections to Weak Lensing by Large-Scale Structure. Asantha Cooray & Wayne Hu. 574, 19 (2002)

The Distance to Clusters: Correcting for Asphericity. David C. Fox & Ue-Li Pen. 574, 38 (2002)

Direction of the 2175 Å Extinction Feature at z = 0.83. V. Motta, E. Mediavilla, J. A. Muñoz, E. Falco, C. S. Kochanek, S. Arribas, B. García-Lorenzo, A. Oscoz, & M. Serra-Ricart. 574, 719 (2002)

Gravitational Microlensing near Caustics. I. Folds. B. Scott Gaudi & A. O. Petters. 574, 970 (2002)

Simulation of a Space-based Microlensing Survey for Terrestrial Extrasolar Planets. David P. Bennett & Sun Hong Rhie. 574, 985 (2002)

The Dark Matter Profile of the Lensing Cluster MS 2137–23: A Test of the Cold Dark Matter Paradigm. David J. Sand, Tommaso Treu, & Richard S. Ellis. 574, L129 (2002)

Lensing Property of Cored Galaxy Models. N. W. Evans & C. Hunter. 575, 68 (2002)

The Internal Structure and Formation of Early-Type Galaxies: The Gravitational Lens System MG 2016+112 at z = 1.004. *Tommaso Treu & Leon V. E. Koopmans.* 575, 87 (2002)

Cosmic Alignment toward the Radio Einstein Ring PKS 1830-211?
F. Courbin, G. Meylan, J. P. Kneib, & C. Lidman. 575, 95 (2002)

PKS 1830–211: A Face-on Spiral Galaxy Lens. Joshua N. Winn, Christopher S. Kochanek, Brian A. McLeod, Emilio E. Falco, Christopher D. Impey, & Hans-Walter Rix. 575, 103 (2002)

Rethinking Lensing and A. Charles R. Keeton. 575, L1 (2002)

Completeness in Weak-Lensing Searches for Clusters. Martin White, Ludovic van Waerbeke, & Jonathan Mackey. 575, 640 (2002)

Cosmological Microlensing Statistics: Variability Rates for Quasars and Gamma-Ray Burst Afterglows and Implications for Macrolensing

Magnification Bias and Flux Ratios. J. S. B. Wyithe & Edwin L. Turner. 575, 650 (2002)

The Redshift of a Lensing Galaxy in PMN J0134–0931. Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton, David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann. 575, L51 (2002)

GRAVITATIONAL WAVES

Low-Mass X-Ray Binaries May Be Important Laser Interferometer Gravitational-Wave Observatory Sources After All. Jeremy S. Heyl. 574, L57 (2002)

Parameter Estimation for Galactic Binaries by the Laser Interferometer Space Antenna. Ryuichi Takahashi & Naoki Seto. 575, 1030 (2002)

LIGO/VIRGO Searches for Gravitational Radiation in Hypernovae. Maurice H. P. M. van Putten. 575, L71 (2002)

HYDRODYNAMICS

Numerical Models of Viscous Accretion Flows near Black Holes. Jonathan C. McKinney & Charles F. Gammie. 573, 728 (2002)

The Effect of the Dissipative Corona on the Structure and Stability of Cold Optically Thick Accretion Disks at High Accretion Rates. Ranjeev Misra & Ronald E. Taam. 573, 764 (2002)

Bullets in a Core-Collapse Supernova Remnant: The Vela Remnant. Chih-Yueh Wang & Roger A. Chevalier. 574, 155 (2002)

Cooling Flows of Self-gravitating, Rotating, Viscous Systems. Mohsen Shadmehri & Jamshid Ghanbari. 574, 198 (2002)

Measured Mass-Loss Rates of Solar-like Stars as a Function of Age and Activity. Brian E. Wood, Hans-Reinhard Müller, Gary P. Zank, & Jeffrey L. Linsky. 574, 412 (2002)

Angular Momentum Exraction by Gravity Waves in the Sun. Suzanne Talon, Pawan Kumar, & Jean-Paul Zahn. 574, L175 (2002)

Injection of Radioactivities into the Forming Solar System. Harri A. T. Vanhala & Alan P. Boss. 575, 1144 (2002)

INFRARED: GALAXIES

Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)

Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)

The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)

Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944. C. L. Carilli, P. Cox, F. Bertoldi, K. M. Menten, A. Omont, S. G. Djorgovski, A. Petric, A. Beelen, K. G. Isaak, & R. G. McMahon. 575, 145 (2002)

Infrared Space Observatory Observations of Hickson Compact Group 31 with the Central Wolf-Rayet Galaxy NGC 1741. B. O'Halloran, L. Metcalfe, B. McBreen, R. Laureijs, K. Leech, M. Delaney, D. Watson, & L. Hanlon. 575, 747 (2002)

INFRARED: GENERAL

The Cosmic Radio and Infrared Backgrounds Connection. Eli Dwek & Michael K. Barker. 575, 7 (2002)

INFRARED: ISM

Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources. Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)

Molecular Hydrogen Outflows in W51. Klaus W. Hodapp & Christopher J. Davis. 575, 291 (2002)

INFRARED: STARS

Optical and Infrared Observations of the Supernova SN 1999el. E. Di Carlo, F. Massi, G. Valentini, A. Di Paola, F. D'Alessio, E. Brocato, D. Guidubaldi, M. Dolci, F. Pedichini, R. Speziali, G. Li Causi, A. Carattio Garatti, E. Cappellaro, M. Turatto, A. A. Arkharov, Y. Gnedin, V. M. Larionov, S. Benetti, A. Pastorello, I. Aretxaga, V. Chavushyan, O. Vega, I. J. Danziger, & A. Tornambé. 573, 144 (2002)

Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi,

Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)

The Luminosity and Mass Function of the Trapezium Cluster: from B Stars to the Deuterium-burning Limit. August A. Muench, Elizabeth A. Lada, Charles J. Lada, & João Alves. 573, 366 (2002)

- Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)
- Mid-Infrared Images of the Debris Disk around HD 141569. K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
- Subarcsecond Mid-Infrared Imaging of Two Post–Asymptotic Giant Branch 21 Micron Sources. Sun Kwok, Kevin Volk, & Bruce J. Hrivnak. 573, 720 (2002)
- Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995).
 Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)
- The Massive Disk around OH 231.8+4.2. M. Jura, C. Chen, & P. Plavchan. 574, 936 (2002)
- Keck NIRSPEC Infrared OH Lines: Oxygen Abundances in Metal-poor Stars Down to [Fe/H] = -2.9. Jorge Meléndez & Beatriz Barbuy. 575, 474 (2002)
- Spatially Resolved Observations of the Galactic Center Source IRS 21.
 A. Tanner, A. M. Ghez, M. Morris, E. E. Becklin, A. Cotera, M. Ressler, M. Werner, & P. Wizinowich. 575, 860 (2002)
- Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christopher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, & J. Craig Wheeler. 575, 1007 (2002)

INSTABILITIES

- Mode-switching Timescales in the Classical Variable Stars. J. Robert Buchler & Zoltán Kolláth. 573, 324 (2002)
- The Dynamical Structure of Nonradiative Black Hole Accretion Flows. John F. Hawley & Steven A. Balbus. 573, 738 (2002)
- On the Nature of Angular Momentum Transport in Nonradiative Accretion Flows. Steven A. Balbus & John F. Hawley. 573, 749 (2002)
- Where Is the Inner Edge of an Accretion Disk around a Black Hole? Julian H. Krolik & John F. Hawley. 573, 754 (2002)
- Cooling Flows of Self-gravitating, Rotating, Viscous Systems. Mohsen Shadmehri & Jamshid Ghanbari. 574, 198 (2002)
- Hydromagnetic Instabilities in Proto-Neutron Stars. Juan A. Miralles, José A. Pons, & Vadim A. Urpin. 574, 356 (2002)
- Elctrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)
- A Dynamical Mechanism for Establishing Apsidal Resonance. *Renu Malhotra*. 575, L33 (2002)
- Magnetorotational Instability in Liquid Metal Couette Flow. K. Noguchi, V. I. Pariev, S. A. Colgate, H. F. Beckley, & J. Nordhaus. 575, 1151 (2002)

INTERPLANETARY MEDIUM

Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares. G. M. Mason, M. E. Wiedenbeck, J. A. Miller, J. E. Mazur, E. R. Christian, C. M. S. Cohen, A. C. Cummings, J. R. Dwyer, R. E. Gold, S. M. Krimigis, R. A. Leske, R. A. Mewaldt, P. L. Slocum, E. C. Stone, & T. T. von Rosenvinge. 574, 1039 (2002)

ISM: ABUNDANCES

- A Metal-poor Compact H II Region with a Small, Isolated, and Dense Young Stellar Cluster. *Jun-Jie Wang, Jian-Yan Wei, & Jing-Yao Hu.* 573, 238 (2002)
- Gas-Phase Iron Abundances and Depletions in Translucent Interstellar Lines of Sight from FUSE Observations of Fe II Lines. Theodore P. Snow, Brian L. Rachford, & Laura Figoski. 573, 662 (2002)
- Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)
- H I: A Chemical Tracer of Turbulent Diffusion in Molecular Clouds. Karen Willacy, William D. Langer, & Mark Allen. 573, L119 (2002)
- Ultraviolet Detection of Interstellar ¹²C¹⁷O and the CO Isotopomeric Rations toward X Persei. Yaron Sheffer, David L. Lambert, & S. R. Federman. 574, L171 (2002)
- ORFEUS Observations of the Foreground Gas toward HD 37903. Dae-Hee Lee. Kyoung-Wook Min, S. R. Federman, Kwang-Sun Ryu, Won-Yong Han, Uk-Won Nam, Hyun-Soo Chung, W. Van Dyke Dixon, & Mark Hurwitz. 575, 234 (2002)

- Presolar Grains from the Qingzhen (EH3) Meteorite. Yangting Lin, Sachiko Amari, & Olga Pravdivtseva. 575, 257 (2002)
- The Heavy-Element Enrichment of Lyα Clouds in the Virgo Supercluster. T. M. Tripp, E. B. Jenkins, G. M. Williger, S. R. Heap, C. W. Bowers, A. C. Danks, R. Davé, R. F. Green, T. R. Gull, C. L. Joseph, M. E. Kaiser, D. Lindler, R. J. Weymann, & B. E. Woodgate. 575, 697 (2002)

ISM: ATOMS

A Large Atomic Hydrogen Shell in the Outer Galaxy: Supernova Remnant or Stellar Wind Bubble? Bülent Uyaniker & Roland Kothes. 574, 805 (2002)

ISM: BUBBLES

- Discovery of High-Latitude CO in an H I Supershell in NGC 5775. S.-W. Lee, E. R. Seaquist, S. Leon, S. García-Burillo, & J. A. Irwin. 573, L107 (2002)
- A Large Atomic Hydrogen Shell in the Outer Galaxy: Supernova Remnant or Stellar Wind Bubble? Bülent Uyaniker & Roland Kothes. 574, 805 (2002)

ISM: CLOUDS

- Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)
- Photoevaporation of Clumps in Photodissociation Regions. U. Gorti & D. Hollenbach. 573, 215 (2002)
- X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with Chandra. Shin-ichiro Takagi, Hiroshi Murakami, & Katsuji Koyama. 573, 275 (2002)
- Scaling Relations of Supersonic Turbulance in Star-forming Molecular Clouds. Stanislav Boldyrev, Åke Nordlund, & Paolo Padoan. 573, 678 (2002)
- The Evolution of the Circumstellar Environment of Embedded Young Stars from Observations of Rare Species of Carbon Monoxide. G. A. Fuller & E. F. Ladd. 573, 699 (2002)
- H I: A Chemical Tracer of Turbulent Diffusion in Molecular Clouds. Karen Willacy, William D. Langer, & Mark Allen. 573, L119 (2002)
- The Highly Collimated HH 92 Jet and Parsec-Scale Outflow from IRAS 05399-0121. John Bally, Bo Reipurth, & Colin Aspin. 574, L79 (2002)
- Magnetic Fields in Star-forming Molecular Clouds. V. Submillimeter Polarization of the Barnard 1 Dark Cloud. Brenda C. Matthews & Christine D. Wilson. 574, 822 (2002)
- Self-gravitating Magnetically Supported Protostellar Disks and the Formation of Substellar Companions. Zhi-Yun Li. 574, L159 (2002)
- On the Heating Source of the Orion KL Hot Core. P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco. 574, L163 (2002)
- High-Velocity Clouds as a Probe of the Global Structure of the Gaseous Galactic Halo. J. Espresate, J. Canto, & Jose Franco. 575, 194 (2002)
- Interstellar Absorption of the Galactic Polar Low-Frequency Radio Background Synchrotron Spectrum as an Indicator of Clumpiness in the Warm Ionized Medium. J. D. Peterson & W. R. Weber. 575, 217 (2002)
- The H¹³CN/HC¹⁵N Abundance Ratio in Dense Cores: Possible Source-to-Source Variation of Isotope Abundances? Masafumi Ikeda, Tomoya Hirota, & Satoshi Yamamoto. 575, 250 (2002)
- Collapse of Rotating Magnetized Molecular Cloud Cores and Mass Outflows. Kohji Tomisaka. 575, 306 (2002)
- Interaction between Ionized and Molecular Gas in the Active Star-forming Region W31. Kee-Tae Kim & Bon-Chul Koo. 575, 327 (2002)
- Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)
- Very Large Array Observations of 6 Centimeter H₂CO in the Direction of Cassiopeia A. E. M. Reynoso & W. M. Goss. 575, 871 (2002)
- Modeling Line Profiles of Photostellar Collapse Observed with High Angular Resolution. Minho Choi. 575, 900 (2002)
- The Great PV Cephei Outflow: A Case Study in Outflow-Cloud Interaction. Héctor G. Arce & Alyssa A. Goodman. 575, 911 (2002)
- A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)

ISM: COSMIC RAYS

- Cosmic-Ray Production of ⁶Li by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation. *Takeru Ken Suzuki & Susumu Inoue*. 573, 168 (2002)
- Particle Acceleration in Solar Wind Comression Regions. J. Giacalone, J. R. Jokipii, & J. Kóta. 573, 845 (2002)

Neutrino, Neutron, and Cosmic-Ray Production in the External Shock Model of Gamma-Ray Bursts. Charles D. Dermer. 574, 65 (2002)

Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares. G. M. Mason, M. E. Wiedenbeck, J. A. Miller, J. E. Mazur, E. R. Christian, C. M. S. Cohen, A. C. Cummings, J. R. Dwyer, R. E. Gold, S. M. Krimigis, R. A. Leske, R. A. Mewaldt, P. L. Slocum, E. C. Stone, & T. T. von Rosenvinge. 574, 1039 (2002)

Interstellar Absorption of the Galactic Polar Low-Frequency Radio Background Synchrotron Spectrum as an Indicator of Clumpiness in the Warm Ionized Medium. J. D. Peterson & W. R. Weber. 575, 217 (2002)

The Guaranteed Gamma-Ray Background. Vasiliki Pavliduo & Brian D. Fields 575 15 (2002)

ISM: DUST, EXTINCTION

Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)

IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)

Gas-Phase Iron Abundances and Depletions in Translucent Interstellar Lines of Sight from FUSE Observations of Fe II Lines. Theodore P. Snow, Brian L. Rachford, & Laura Figoski. 573, 662 (2002)

Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002)

Scattering and Absorption by Aligned Grains in Circumstellar Environments. Barbara A. Whitney & Michael J. Wolff. 574, 205 (2002)

The Spatial Distribution of the Far-Infrared Emission in NGC 253. V. P. Melo, A. M. Pérez García, J. A. Acosta-Pulido, C. Muñoz-Tuñón, & J. M. Rodríguez Espinosa. 574, 709 (2002)

Direction of the 2175 A Extinction Feature at z = 0.83. V. Motta, E. Mediavilla, J. A. Muñoz, E. Falco, C. S. Kochanek, S. Arribas, B. García-Lorenzo, A. Oscoz, & M. Serra-Ricart. 574, 719 (2002)

Can Reflection from Grains Diagnose the Albedo? John S. Mathis, Barbara A. Whitney, & Kenneth Wood. 574, 812 (2002)

Rocket Observations of Far-Ultraviolet Dust Scattering in NGC 2023. Eric B. Burgh, Stephan R. McCandliss, & Paul D. Feldman. 575, 240 (2002)

Presolar Grains from the Qingzhen (EH3) Meteorite. Yangting Lin, Sachiko Amari, & Olga Pravdivtseva. 575, 257 (2002)

Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)

Molecular Hydrogen Formation in the Interstellar Medium. S. Cazaux & A. G. G. M. Tielens. 575, L29 (2002)

Very Large Array Observations of 6 Centimeter H₂CO in the Direction of Cassiopeia A. E. M. Reynoso & W. M. Goss. 575, 871 (2002)

Mechanical Alignment of Suprathermal Paramagnetic Cosmic-Dust Granules: The Cross Section Mechanism. *Michael Efroimsky*. 575, 886 (2002)

NICMOS Images of the GG Tau Circumbinary Disk. C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002)

Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christo-pher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, & J. Craig Wheeler. 575, 1007 (2002)

The Redshift of a Lensing Galaxy in PMN J0134–0931. Patrick B. Hall, Gordon T. Richards, Donald G. York, Charles R. Keeton, David V. Bowen, Donald P. Schneider, David J. Schlegel, & J. Brinkmann. 575, L51 (2002)

ISM: GENERAL

The Scintillation Velocity of the Relativistic Binary Pulsar PSR J1141-6545. S. M. Ord, M. Bailes, & W. van Straten. 574, L75 (2002)

High-Velocity Clouds as a Probe of the Global Structure of the Gaseous Galactic Halo. J. Espresate, J. Canto, & Jose Franco. 575, 194 (2002)

Bow Shocks from Neutron Stars: Scaling Laws and Hubble Space Telescope Observations of the Guitar Nebula. S. Chatterjee & J. M. Cordee. 575, 407 (2002)

ISM: H II REGIONS

- A Metal-poor Compact H II Region with a Small, Isolated, and Dense Young Stellar Cluster. Jun-Jie Wang, Jian-Yan Wei, & Jing-Yao Hu. 573, 238 (2002)
- A Large Atomic Hydrogen Shell in the Outer Galaxy: Supernova Remnant or Stellar Wind Bubble? Bülent Uyaniker & Roland Kothes. 574, 805 (2002)

Interaction between Ionized and Molecular Gas in the Active Star-forming Region W31. Kee-Tae Kim & Bon-Chul Koo. 575, 327 (2002)

ISM: HERBIG-HARO OBJECTS

Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)

The Highly Collimated HH 92 Jet and Parsec-Scale Outflow from IRAS 05399-0121. John Bally, Bo Reipurth, & Colin Aspin. 574, L79 (2002)

The Great PV Cephei Outflow: A Case Study in Outflow-Cloud Interaction. Héctor G. Arce & Alyssa A. Goodman. 575, 911 (2002)

Bow Shocks, Wiggling Jets, and Wide-Angle Winds: A High-Resolution Study of the Entrainment Mechanism of the PV Cephei Molecular (CO) Outflow. Héctor G. Arce & Alyssa A. Goodman. 575, 928 (2002)

ISM: INDIVIDUAL

Name: Barnard 1

Magnetic Fields in Star-forming Molecular Clouds. V. Submillimeter Polarization of the Barnard 1 Dark Cloud. Brenda C. Matthews & Christine D. Wilson. 574, 822 (2002)

Name: Cassiopeia A

Very Large Array Observations of 6 Centimeter H₂CO in the Direction of Cassiopeia A. E. M. Reynoso & W. M. Goss. 575, 871 (2002)

Name: PV Cephei

The Great PV Cephei Outflow: A Case Study in Outflow-Cloud Interaction. Héctor G. Arce & Alyssa A. Goodman. 575, 911 (2002)

Bow Shocks, Wiggling Jets, and Wide-Angle Winds: A High-Resolution Study of the Entrainment Mechanism of the PV Cephei Molecular (CO) Outflow. Héctor G. Arce & Alyssa A. Goodman. 575, 928 (2002)

Name: Orion Kleinmann-Low

On the Heating Source of the Orion KL Hot Core. P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco. 574, L163 (2002)

Name: Sagittarius B2

X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with *Chandra. Shin-ichiro Takagi, Hiroshi Murakami, & Katsuji Koyama.* 573, 275 (2002)

Name: Taurus Cloud Complex

A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)

Name: Taurus Molecular Cloud

The Evolution of the Circumstellar Environment of Embedded Young Stars from Observations of Rare Species of Carbon Monoxide. G. A. Fuller & E. F. Ladd. 573, 699 (2002)

Name: Vela Supernova Remnant

Bullets in a Core-Collapse Supernova Remnant: The Vela Remnant. Chih-Yueh Wang & Roger A. Chevalier. 574, 155 (2002)

NGC Number: NGC 2023

ORFEUS Observations of the Foreground Gas toward HD 37903. Dae-Hee Lee, Kyoung-Wook Min, S. R. Federman, Kwang-Sun Ryu, Won-Yong Han, Uk-Won Nam, Hyun-Soo Chung, W. Van Dyke Dixon, & Mark Hurwitz. 575, 234 (2002)

Rocket Observations of Far-Ultraviolet Dust Scattering in NGC 2023. Eric B. Burgh, Stephan R. McCandliss, & Paul D. Feldman. 575, 240 (2002)

Alphanumeric: B335

Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)

Alphanumeric: G5.27-0.9

Decapitating the Duck: The (Non)Association of PSR B1757-24 and Supernova Remnant G5.4-1.2. S. E. Thorsett, W. F. Brisken, & W. M. Goss. 573, L111 (2002)

Alphanumeric: G5.4-1.2

Decapitating the Duck: The (Non)Association of PSR B1757-24 and Supernova Remnant G5.4-1.2. S. E. Thorsett, W. F. Brisken, & W. M. Goss. 573, L111 (2002)

Alphanumeric: HH 111

Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)

Alphanumeric: HH 315

- The Great PV Cephei Outflow: A Case Study in Outflow-Cloud Interaction. Héctor G. Arce & Alyssa A. Goodman. 575, 911 (2002)
- Bow Shocks, Wiggling Jets, and Wide-Angle Winds: A High-Resolution Study of the Entrainment Mechanism of the PV Cephei Molecular (CO) Outflow. Héctor G. Arce & Alyssa A. Goodman. 575, 928 (2002)

Alphanumeric: IRAS 03282+3035

Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)

Alphanumeric: IRAS 21391+5802

IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)

Alphanumeric: L483

Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)

Alphanumeric: L723

Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)

Alphanumeric: L1448

Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)

Alphanumeric: L1498

The H¹³CN/HC¹⁵N Abundance Ratio in Dense Cores: Possible Source-to-Source Variation of Isotope Abundances? Masafumi Ikeda, Tomoya Hirota, & Satoshi Yamamoto. 575, 250 (2002)

Alphanumeric: L1521E

The H¹³CN/HC¹⁵N Abundance Ratio in Dense Cores: Possible Source-to-Source Variation of Isotope Abundances? Masafumi Ikeda, Tomoya Hirota, & Satoshi Yamamoto. 575, 250 (2002)

Alphanumeric: L1527

Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)

Alphanumeric: M17

Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002)

Alphanumeric: OMC-3

Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)

Alphanumeric: TMC-1

The H¹³CN/HC¹⁵N Abundance Ratio in Dense Cores: Possible Source-to-Source Variation of Isotope Abundances? Masafumi Ikeda, Tomoya Hirota, & Satoshi Yamamoto. 575, 250 (2002)

Alphanumeric: W28

ROSAT/ASCA Observations of the Mixed-Morphology Supernova Remnant W28. Jeonghee Rho & Kazimierz J. Borkowski. 575, 201 (2002)

Alphanumeric: W31

Interaction between Ionized and Molecular Gas in the Active Star-forming Region W31. Kee-Tae Kim & Bon-Chul Koo. 575, 327 (2002)

ISM: JETS AND OUTFLOWS

- Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)
- Near-Infrared Synchrotron Emission from the Compact Jet of GX 339-4.
 S. Corbel & R. P. Fender. 573, L35 (2002)
- The Evolution of the Circumstellar Environment of Embedded Young Stars from Observations of Rare Species of Carbon Monoxide. G. A. Fuller & E. F. Ladd. 573, 699 (2002)
- Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-A. Nyman. 573, L123 (2002)
- Simulation-based Investigation of a Model for the Interaction between Stellar Magnetospheres and Circumstellar Accretion Disks. Sean Matt, Anthony P. Goodson, Robert M. Winglee, & Karl-Heinz Bohm. 574, 232 (2002)
- Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources.

 Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)
- The Highly Collimated HH 92 Jet and Parsec-Scale Outflow from IRAS 05399-0121. John Bally, Bo Reipurth, & Colin Aspin. 574, L79 (2002)
- On the Heating Source of the Orion KL Hot Core. P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco. 574, L163 (2002)
- Molecular Hydrogen Outflows in W51. Klaus W. Hodapp & Christopher J. Davis. 575, 291 (2002)
- Collapse of Rotating Magnetized Molecular Cloud Cores and Mass Outflows. Kohji Tomisaka. 575, 306 (2002)
- The Great PV Cephei Outflow: A Case Study in Outflow-Cloud Interaction. Héctor G. Arce & Alyssa A. Goodman. 575, 911 (2002)
- Bow Shocks, Wiggling Jets, and Wide-Angle Winds: A High-Resolution Study of the Entrainment Mechanism of the PV Cephei Molecular (CO) Outflow. Héctor G. Arce & Alyssa A. Goodman. 575, 928 (2002)

ISM: KINEMATICS AND DYNAMICS

- Photoevaporation of Clumps in Photodissociation Regions. U. Gorti & D. Hollenbach. 573, 215 (2002)
- Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)
- Scaling Relations of Supersonic Turbulance in Star-forming Molecular Clouds. Stanislav Boldyrev, Åke Nordlund, & Paolo Padoan. 573, 678 (2002)
- A Large Atomic Hydrogen Shell in the Outer Galaxy: Supernova Remnant or Stellar Wind Bubble? Bülent Uyaniker & Roland Kothes. 574, 805 (2002)

ISM: LINES AND BANDS

- Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)
- Subarcsecond Mid-Infrared Imaging of Two Post–Asymptotic Giant Branch 21 Micron Sources. Sun Kwok, Kevin Volk, & Bruce J. Hrivnak. 573, 720 (2002)
- Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002)
- Molecular Hydrogen Outflows in W51. Klaus W. Hodapp & Christopher J. Davis. 575, 291 (2002)

ISM: MAGNETIC FIELDS

- Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)
- Magnetohydrodynamic Accleration of the Crab Pulsar Wind. I. Okamoto. 573, L31 (2002)
- A Highly Ordered Faraday Rotation Structure in the Interstellar Medium.

 B. Uyaniker & T. L. Landecker. 575, 225 (2002)
- Collapse of Rotating Magnetized Molecular Cloud Cores and Mass Outflows. Kohji Tomisaka. 575, 306 (2002)

ISM: MOLECULES

- Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)
- Gas-Phase Iron Abundances and Depletions in Translucent Interstellar Lines of Sight from FUSE Observations of Fe II Lines. Theodore P. Snow, Brian L. Rachford, & Laura Figoski. 573, 662 (2002)
- H I: A Chemical Tracer of Turbulent Diffusion in Molecular Clouds. Karen Willacy, William D. Langer, & Mark Allen. 573, L119 (2002)

Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources. Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)

New Prescriptions for Growing Interstellar Carbonaceous Cauliflowers. *Dieter Heymann & Marie Pontier-Johnson*. 574, L91 (2002)

Magnetic Fields in Star-forming Molecular Clouds. V. Submillimeter Polarization of the Barnard 1 Dark Cloud. Brenda C. Matthews & Christine D. Wilson. 574, 822 (2002)

On the Heating Source of the Orion KL Hot Core. *P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco.* 574, L163 (2002) Ultraviolet Detection of Interstellar ¹²C¹⁷O and the CO Isotopomeric Rations

Ultraviolet Detection of Interstellar ¹²C¹⁷O and the CO Isotopomeric Rations toward X Persei. Yaron Sheffer, David L. Lambert, & S. R. Federman. 574, L171 (2002)

ORFEUS Observations of the Foreground Gas toward HD 37903. Dae-Hee Lee, Kyoung-Wook Min, S. R. Federman, Kwang-Sun Ryu, Won-Yong Han, Uk-Won Nam, Hyun-Soo Chung, W. Van Dyke Dixon, & Mark Hurwitz. 575, 234 (2002)

The H¹³CN/HC¹⁵N Abundance Ratio in Dense Cores: Possible Source-to-Source Variation of Isotope Abundances? Masafumi Ikeda, Tomoya Hirota, & Satoshi Yamamoto. 575, 250 (2002)

Molecular Hydrogen Outflows in W51. Klaus W. Hodapp & Christopher J. Davis. 575, 291 (2002)

Molecular Hydrogen Formation in the Interstellar Medium. S. Cazaux & A. G. G. M. Tielens. 575, L29 (2002)

Very Large Array Observations of 6 Centimeter H₂CO in the Direction of Cassiopeia A. E. M. Reynoso & W. M. Goss. 575, 871 (2002)

A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)

Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)

ISM: PLANETARY NEBULAE: GENERAL

High-Resolution CO and H₂ Molecular Line Imaging of a Cometary Globule in the Helix Nebula. P. J. Huggins, T. Forveille, R. Bachiller, P. Cox, N. Ageorges, & J. R. Walsh. 573, L55 (2002)

Subarcsecond Mid-Infrared Imaging of Two Post-Asymptotic Giant Branch 21 Micron Sources. Sun Kwok, Kevin Volk, & Bruce J. Hrivnak. 573, 720 (2002)

Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)

Slitless Spectroscopy of Large Magellanic Cloud Planetary Nebulae: A Study of the Emission Lines and Morphology. Letizia Stanghellini, Richard A. Shaw, Max Mutchler, Stacy Palen, Bruce Balick, & J. Chris Blades. 575, 178 (2002)

Extragalactic Globular Cluster Planetary Nebulae: Discovery of a Planetary Nebula in the NGC 5128 Globular Cluster G169 Using the Magellan I Baade Telescope. Dante Minniti & Marina Rejkuba. 575, L59 (2002)

ISM: PLANETARY NEBULAE: INDIVIDUAL

NGC Number: NGC 7293

High-Resolution CO and H₂ Molecular Line Imaging of a Cometary Globule in the Helix Nebula. P. J. Huggins, T. Forveille, R. Bachiller, P. Cox, N. Ageorges, & J. R. Walsh. 573, L55 (2002)

VLA Observations of H I in the Helix Nebula (NGC 7293). Luis F. Rodríguez, W. M. Goss, & Robert Williams. 574, 179 (2002)

Alphanumeric: He 2-90

Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)

ISM: REFLECTION NEBULAE

Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)

Can Reflection from Grains Diagnose the Albedo? John S. Mathis, Barbara A. Whitney, & Kenneth Wood. 574, 812 (2002)

Rocket Observations of Far-Ultraviolet Dust Scattering in NGC 2023. Eric B. Burgh, Stephan R. McCandliss, & Paul D. Feldman. 575, 240 (2002)

ISM: STRUCTURE

Near-Infrared and CO (J = 1-0) Observations of Photodissociation Regions in M17. Minoru Ando, Tetsuya Nagata, Shuji Sato, Norikazu Mizuno, Akira Mizuno, Toshihide Kawai, Hidehiko Nakaya, & Ian S. Glass. 574, 187 (2002) The Velocity Distribution of the Nearest Interstellar Gas. Priscilla C. Frisch, Lauren Grodnicki, & Daniel E. Welty. 574, 834 (2002)

High-Velocity Clouds as a Probe of the Global Structure of the Gaseous Galactic Halo. J. Espresate, J. Canto, & Jose Franco. 575, 194 (2002)

Interstellar Absorption of the Galactic Polar Low-Frequency Radio Background Synchrotron Spectrum as an Indicator of Clumpiness in the Warm Ionized Medium. J. D. Peterson & W. R. Weber. 575, 217 (2002)

A Highly Ordered Faraday Rotation Structure in the Interstellar Medium. B. Uyaniker & T. L. Landecker. 575, 225 (2002)

ISM: SUPERNOVA REMNANTS

Decapitating the Duck: The (Non)Association of PSR B1757-24 and Supernova Remnant G5.4-1.2. S. E. Thorsett, W. F. Brisken, & W. M. Goss. 573, L111 (2002)

Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)

Bullets in a Core-Collapse Supernova Remnant: The Vela Remnant. Chih-Yueh Wang & Roger A. Chevalier. 574, 155 (2002)

The X-Ray Spectrum of Supernova Remnant 1987A. Eli Michael, Svetozar Zhekov, Richard McCray, Una Hwang, David N. Burrows, Sangwook Park, Gordon P. Garmire, Stephen S. Holt, & Günther Hasinger. 574, 166 (2002)

A Large Atomic Hydrogen Shell in the Outer Galaxy: Supernova Remnant or Stellar Wind Bubble? Bülent Uyaniker & Roland Kothes. 574, 805 (2002)

ROSAT/ASCA Observations of the Mixed-Morphology Supernova Remnant W28. Jeonghee Rho & Kazimierz J. Borkowski. 575, 201 (2002)

Very Large Array Observations of 6 Centimeter H₂CO in the Direction of Cassiopeia A. E. M. Reynoso & W. M. Goss. 575, 871 (2002)

KUIPER BELT

A Collisional Family in the Classical Kuiper Belt. E. I. Chiang. 573, L65 (2002)

LINE: FORMATION

A Reappraisal of the Solar Photospheric C/O Ratio. Carlos Allende Prieto & David L. Prieto. 573, L137 (2002)

Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)

The X-Ray Spectrum of Fe¹⁶⁺ Revisited with a Multi-Ion Model. *Rami Doron & Ehud Behar.* 574, 518 (2002)

XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068. Ali Kinkhabwala, Masao Sako, Ehud Behar, Steven M. Kahn, Frits Paerels, Albert C. Brinkman, Jelle S. Kaastra, Ming Feng Gu, & Duane A. Liedahl. 575, 732 (2002)

LINE: IDENTIFICATION

Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995).
Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)

A Comparison between Coronal Emission Lines from an Isothermal Spectrum Observed with the Coronal Diagnostic Spectrometer and CHIANTI Emissivities. E. Landi, U. Feldman, & K. P. Dere. 574, 495 (2002)

LINE: PROFILES

NGC 4151: An Intrinsically Average Seyfert 1. Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)

Broadening of Nearly Neutral Iron Emission Line of GX 301-2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)

Magnetic Fields in Prominences: Inversion Techniques for Spectropolarimetric Data of the He 1 D₃ Line. A. López Ariste & R. Casini. 575, 529 (2002)

Modeling Line Profiles of Photostellar Collapse Observed with High Angular Resolution. Minho Choi. 575, 900 (2002)

MAGNETIC FIELDS

The Role of Damped Alfvén Waves in Magnetospheric Accretion Models of Young Stars. M. J. Vasconcelos, V. Jatenco-Pereira, & R. Opher. 574, 847 (2002)

Shear-driven Field-Line Opening and the Loss of a Force-free Magnetostatic Equilibrium. Dmitri A. Uzdensky. 574, 1011 (2002)

Energy of Force-free Magnetic Fields in Relation to Coronal Mass Ejections. G. S. Choe & C. Z. Cheng. 574, L179 (2002)

- Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)
- Quantification of Uncertainty in the Measurement of Magnetic Fields in Clusters of Galaxies. William I. Newman, Alice L. Newman, & Yoel Rephaeli. 575, 755 (2002)

MAGNETOHYDRODYNAMICS: MHD

- Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)
- On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)
- Study of Stochastic Fluctuations in a Shell Dynamo. Pablo D. Mininni & Daniel O. Gómez. 573, 454 (2002)
- Magnetohydrodynamic Accleration of the Crab Pulsar Wind. I. Okamoto. 573, L31 (2002)
- Scaling Relations of Supersonic Turbulance in Star-forming Molecular Clouds. Stanislav Boldyrev, Åke Nordlund, & Paolo Padoan. 573, 678 (2002)
- The Dynamical Structure of Nonradiative Black Hole Accretion Flows, John F. Hawley & Steven A. Balbus. 573, 738 (2002)
- On the Nature of Angular Momentum Transport in Nonradiative Accretion Flows. Steven A. Balbus & John F. Hawley. 573, 749 (2002)
- Where Is the Inner Edge of an Accretion Disk around a Black Hole? *Julian H. Krolik & John F. Hawley.* 573, 754 (2002)
- Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)
- Simulation-based Investigation of a Model for the Interaction between Stellar Magnetospheres and Circumstellar Accretion Disks. Sean Matt. Anthony P. Goodson, Robert M. Winglee, & Karl-Heinz Bohm. 574, 232 (2002)
- Hydromagnetic Instabilities in Proto-Neutron Stars. Juan A. Miralles, José A. Pons, & Vadim A. Urpin. 574, 356 (2002)
- Interaction of EIT Waves with Coronal Active Regions. L. Ofman & B. J. Thompson. 574, 440 (2002)
- The Timing of Flares Associated with the Two Dynamical Types of Solar Coronal Mass Ejections. M. Zhang, L. Golub, E. DeLuca, & J. Burkepile. 574, L97 (2002)
- Shear-driven Field-Line Opening and the Loss of a Force-free Magnetostatic Equilibrium. Dmitri A. Uzdensky. 574, 1011 (2002)
- The Structure and Evolution of a Sigmoidal Active Region. S. E. Gibson, L. Fletcher, G. Del Zanna, C. D. Pike, H. E. Mason, C. H. Mandrini, P. Démoulin, H. Gilbert, J. Burkepile, T. Holzer, D. Alexander, Y. Liu, N. Nitta, J. Qiu, B. Schmieder, & B. J. Thompson. 574, 1021 (2002)
- Self-gravitating Magnetically Supported Protostellar Disks and the Formation of Substellar Companions. Zhi-Yun Li. 574, L159 (2002)
- Energy of Force-free Magnetic Fields in Relation to Coronal Mass Ejections. G. S. Choe & C. Z. Cheng. 574, L179 (2002)
- Coronal Heating Distribution Due to Low-Frequency, Wave-driven Turbulence.
 P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)
- Coronal Magnetic Field Relaxation by Null-Point Reconnection. S. K. Antiochos, J. T. Karpen, & C. R. DeVore. 575, 578 (2002)
- Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)
- Magnetorotational Instability in Liquid Metal Couette Flow. K. Noguchi, V. I. Pariev, S. A. Colgate, H. F. Beckley, & J. Nordhaus. 575, 1151 (2002)
- Magnetohydrodynamic Turbulence as a Foreground for Cosmic Microwave Background Studies. *Jungyeon Cho & A. Lazarian.* 575, L63 (2002)

MASERS

- H I Absorption in the Gigamaser Galaxy TXS 2226–184 and the Relation between H I Absorption and Water Emission. G. B. Taylor, A. B. Peck, C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
- Collective Processes in Relativistic Plasma and Their Implications for Gamma-Ray Burst Afterglows. Amir Sagiv & Eli Waxman. 574, 861 (2002)
- Generation of Type III Solar Radio Bursts in the Low Corona by Direct Amplification. C. S. Wu, C. B. Wang, Peter H. Yoon, H. N. Zheng, & S. Wang. 575, 1094 (2002)

METEORS, METEOROIDS

- New Prescriptions for Growing Interstellar Carbonaceous Cauliflowers. Dieter Heymann & Marie Pontier-Johnson. 574, L91 (2002)
- Presolar Grains from the Qingzhen (EH3) Meteorite. Yangting Lin, Sachiko Amari, & Olga Pravdivtseva. 575, 257 (2002)

METHODS: ANALYTICAL

- On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)
- Accurate Calculations of Interstellar Lines of Mg* Using the Coupled Cluster Approach. Sonjoy Majumder, Holger Merlitz, Geetha Gopakumar, B. P. Das, Uttam Sinha Mahapatra, & Debashis Mukherjee. 574, 513 (2002)

METHODS: DATA ANALYSIS

- The Decline of the Source Population of Gamma-Ray Bursts and Their Luminosity Function. B. E. Stern, Ya. Tikhomirova, & R. Svensson. 573, 75 (2002)
- Bayesian Analysis of Radio Observations of the Be X-Ray Binary LS I+61°303. P. C. Gregory. 575, 427 (2002)
- The Impact of Solar-like Variability on the Detectability of Transiting Terrestrial Planets. Jon M. Jenkins. 575, 493 (2002)
- Modified Median Statistics and Type Ia Supernova Data. P. P. Avelino, C. J. A. P. Martins, & P. Pinto. 575, 989 (2002)

METHODS: N-BODY SIMULATIONS

The Halo Occupation Distribution: Toward an Empirical Determination of the Relation between Galaxies and Mass. *Andreas A. Berlind & David H. Weinberg.* 575, 587 (2002)

METHODS: NUMERICAL

- First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Steen H. Hansen, Sergio Pastor, & Dmitry V. Semikoz. 573, L69 (2002)
- Radiative Transfer in Obliquely Illuminated Disks. *Dimitrios Psaltis.* 574, 306 (2002)
- Triaxial Modeling of Halo Density Profiles with High-Resolution N-Body Simulations. Y. P. Jing & Yasushi Suto. 574, 538 (2002)
- Collapse of Rotating Magnetized Molecular Cloud Cores and Mass Outflows. Kohji Tomisaka. 575, 306 (2002)

METHODS: STATISTICAL

Modified Median Statistics and Type Ia Supernova Data. P. P. Avelino, C. J. A. P. Martins, & P. Pinto. 575, 989 (2002)

MINOR PLANETS, ASTEROIDS

A Collisional Family in the Classical Kuiper Belt. E. I. Chiang. 573, L65 (2002)

MOLECULAR DATA

- Ultraviolet Detection of Interstellar ¹²C¹⁷O and the CO Isotopomeric Rations toward X Persei. Yaron Sheffer, David L. Lambert, & S. R. Federman. 574, L171 (2002)
- Unidentified Bands in Comet Ikeya-Zhang (C/2002 C1): The Correlation between Unidentified Bands and H⁺₂. Hideyo Kawakita & Jun-ichi Watanabe. 574, L183 (2002)

MOLECULAR PROCESSES

- H t: A Chemical Tracer of Turbulent Diffusion in Molecular Clouds. Karen Willacy, William D. Langer, & Mark Allen. 573, L119 (2002)
- New Prescriptions for Growing Interstellar Carbonaceous Cauliflowers. Dieter Heymann & Marie Pontier-Johnson. 574, L91 (2002)
- Dust in the Photospheric Environment: Unified Cloudy Models of M, L, and T Dwarfs. *Takashi Tsuji*. 575, 264 (2002)
- Molecular Hydrogen Formation in the Interstellar Medium. S. Cazaux & A. G. G. M. Tielens. 575, L29 (2002)
- Does the Sun Have a Full-Time COMOSPHERE? Thomas R. Ayres. 575, 1104 (2002)
- Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)

MOON

The Spectrum of Earthshine: A Pale Blue Dot Observed from the Ground.

N. J. Woolf, P. S. Smith, W. A. Traub, & K. W. Jucks. 574, 430 (2002)

NEUTRINOS

Implications of Neutron Decoupling in Short Gamma-Ray Bursts. Jason Pruet & Neal Dalal. 573, 770 (2002)

Neutrino Flux Predictions for Known Galactic Microquasars. C. Distefano, D. Guetta, E. Waxman, & A. Levinson. 575, 378 (2002)

NUCLEAR REACTIONS, NUCLEOSYNTHESIS, ABUNDANCES

Cosmic-Ray Production of ⁶Li by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation. Takeru Ken Suzuki & Susumu Inoue. 573, 168 (2002)

Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)

Measuring ¹²C(α, γ)¹⁶O from White Dwarf Asteroseimology. T. S. Metcalfe, M. Salaris, & D. E. Winget. 573, 803 (2002)

Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)

Presolar Grains from the Qingzhen (EH3) Meteorite. Yangting Lin, Sachiko Amari, & Olga Pravdivtseva. 575, 257 (2002)

A Simple Model for r-Process Scatter and Halo Evolution. Brian D. Fields, James W. Truran, & John J. Cowan. 575, 845 (2002)

PLANETS AND SATELLITES: GENERAL

Constraining the Rotation Rate of Transiting Extrasolar Planets by Oblateness Measurements. S. Seager & Lam Hui. 574, 1004 (2002)

Stability of Satellities around Close-in Extrasolar Giant Planets. Jason W. Barnes & D. P. O'Brien. 575, 1087 (2002)

PLASMAS

Collective Processes in Relativistic Plasma and Their Implications for Gamma-Ray Burst Afterglows. Amir Sagiv & Eli Waxman. 574, 861 (2002)

Generation of Type III Solar Radio Bursts in the Low Corona by Direct Amplification. C. S. Wu, C. B. Wang, Peter H. Yoon, H. N. Zheng, & S. Wang. 575, 1094 (2002)

Magnetorotational Instability in Liquid Metal Couette Flow. K. Noguchi, V. I. Pariev, S. A. Colgate, H. F. Beckley, & J. Nordhaus. 575, 1151 (2002)

POLARIZATION

Circular Polarization from Stochastic Synchrotron Sources. Mateusz Ruszkowski & Mitchell C. Begelman. 573, 485 (2002)

On the Atomic Polarization of the Ground Level of Na I. Roberto Casini, Egidio Landi Degl'Innocenti, Marco Landolfi, & Javier Trujillo Bueno. 573, 864 (2002)

Hubble Space Telescope NICMOS Observations of the Polarization of NGC 1068. Janet P. Simpson, Sean W. J. Colgan, Edwin F. Erickson, Dean C. Hines, A. S. B. Schultz, & Susan R. Trammell. 574, 95 (2002)

Scattering and Absorption by Aligned Grains in Circumstellar Environments. Barbara A. Whitney & Michael J. Wolff. 574, 205 (2002)

Magnetic Fields in Star-forming Molecular Clouds. V. Submillimeter Polarization of the Barnard 1 Dark Cloud. Brenda C. Matthews & Christine D. Wilson. 574, 822 (2002)

A Highly Ordered Faraday Rotation Structure in the Interstellar Medium. B. Uyaniker & T. L. Landecker. 575, 225 (2002)

Magnetic Fields in Prominences: Inversion Techniques for Spectropolarimetric Data of the He | D₃ Line. A. López Ariste & R. Casini. 575, 529 (2002)

Quantification of Uncertainty in the Measurement of Magnetic Fields in Clusters of Galaxies. William I. Newman, Alice L. Newman, & Yoel Rephaeli. 575, 755 (2002)

RADIATION MECHANISMS: NONTHERMAL

Spin-induced Disk Precession in the Supermassive Black Hole at the Galactic Center. Siming Liu & Fulvio Melia. 573, L23 (2002)

Near-Infrared Synchrotron Emission from the Compact Jet of GX 339-4.
S. Corbel & R. P. Fender. 573, L35 (2002)

Collective Processes in Relativistic Plasma and Their Implications for Gamma-Ray Burst Afterglows. Amir Sagiv & Eli Waxman. 574, 861 (2002)

Cosmic Microwave Background Comptonization by Energetic Nonthermal Electrons in Clusters of Galaxies. Meir Shimon & Yoel Rephaeli. 575, 12 (2002)

Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002) Interstellar Absorption of the Galactic Polar Low-Frequency Radio Background Synchrotron Spectrum as an Indicator of Clumpiness in the Warm Ionized Medium. J. D. Peterson & W. R. Weber. 575, 217 (2002)

Transformation Properties of External Radiation Fields, Energy-Loss Rates and Scattered Spectra, and a Model for Blazar Variability. Charles D. Dermer & Reinhard Schlickeiser. 575, 667 (2002)

Quantification of Uncertainty in the Measurement of Magnetic Fields in Clusters of Galaxies. William 1. Newman, Alice L. Newman, & Yoel Rephaeli. 575, 755 (2002)

RADIATION MECHANISMS: THERMAL

Timing Properties of Magnestars. Feryal Özel. 575, 397 (2002)

RADIATIVE TRANSFER

Scattering and Absorption by Aligned Grains in Circumstellar Environments. Barbara A. Whitney & Michael J. Wolff: 574, 205 (2002)

Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)

Radiative Transfer in Obliquely Illuminated Disks. *Dimitrios Psaltis.* 574, 306 (2002)

Does the Slim-Disk Model Correctly Consider Photon-trapping Effects? Ken Ohsuga, Shin Mineshige, Masao Mori, & Masayuki Umemura. 574, 315 (2002)

Interstellar Absorption of the Galactic Polar Low-Frequency Radio Background Synchrotron Spectrum as an Indicator of Clumpiness in the Warm Ionized Medium. J. D. Peterson & W. R. Weber. 575, 217 (2002)

Modeling Line Profiles of Photostellar Collapse Observed with High Angular Resolution. *Minho Choi*. 575, 900 (2002)

RADIO CONTINUUM: GALAXIES

Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)

Hot Bubbles in Cooling Flow Clusters. Noam Soker, Elizabeth L. Blanton, & Craig L. Sarazin. 573, 533 (2002)

Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944. C. L. Carilli, P. Cox, F. Bertoldi, K. M. Menten, A. Omont, S. G. Djorgovski, A. Petric, A. Beelen, K. G. Isaak, & R. G. McMahon. 575, 145 (2002)

Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)

RADIO CONTINUUM: GENERAL

Collective Processes in Relativistic Plasma and Their Implications for Gamma-Ray Burst Afterglows. Amir Sagiv & Eli Waxman. 574, 861 (2002)

The Cosmic Radio and Infrared Backgrounds Connection. Eli Dwek & Michael K. Barker. 575. 7 (2002)

RADIO CONTINUUM: ISM

IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)

A Highly Ordered Faraday Rotation Structure in the Interstellar Medium. B. Uyaniker & T. L. Landecker. 575, 225 (2002)

Interaction between Ionized and Molecular Gas in the Active Star-forming Region W31. Kee-Tae Kim & Bon-Chul Koo. 575, 327 (2002)

Modeling Line Profiles of Photostellar Collapse Observed with High Angular Resolution. Minho Choi. 575, 900 (2002)

RADIO CONTINUUM: STARS

A Search for Radio Emission from Supernovae with Ages from about 1 Week to More than 80 Years. *Christopher R. Eck, John J. Cowan, & David Branch.* 573, 306 (2002)

Bayesian Analysis of Radio Observations of the Be X-Ray Binary LS I +61°303. P. C. Gregory. 575, 427 (2002)

RADIO LINES: GALAXIES

¹²CO Mapping of the Low-Metallicity Blue Compact Dwarf Galaxy Markarian 86. A. Gil de Paz, S. A. Silich, B. F. Madore, C. Sánchez Contreras, J. Zamorano, & J. Gallego. 573, L101 (2002)

H i Absorption in the Gigamaser Galaxy TXS 2226-184 and the Relation between H i Absorption and Water Emission. G. B. Taylor, A. B. Peck,

- C. Henkel, H. Falcke, C. G. Mundell, C. P. O'Dea, S. A. Baum, & J. F. Gallimore. 574, 88 (2002)
- Very Large Array Detection of Radio Recombination Lines from the Radio Nucleus of NGC 253: Inoization by a Weak Active Galactic Nucleus, an Obscured Super Star Cluster, or a Compact Supernova Remnant? Niruj R. Mohan, K. R. Anantharamaiah, & W. M. Goss. 574, 701 (2002)
- Imaging Low-Order CO Emissions from the z = 4.12 Quasi-Stellar Object PSS J2322+1944. C. L. Carilli, P. Cox, F. Bertoldi, K. M. Menten, A. Omont, S. G. Djorgovski, A. Petric, A. Beelen, K. G. Isaak, & R. G. McMahon. 575, 145 (2002)
- Toward the Secondary Bar: Gas Morphology and Dynamics in NGC 4303.
 Eva Schinnerer, Witold Maciejewski, Nick Scoville, & Leonidas A.
 Moustakas. 575, 826 (2002)
- Widespread HCO Emission in the Nuclear Starburst of M82. S. García-Burillo, J. Martín-Pintado, A. Fuente, & A. Usero. 575, L55 (2002)

RADIO LINES: ISM

- VLA Observations of H i in the Helix Nebula (NGC 7293). Luis F. Rodríguez, W. M. Goss, & Robert Williams. 574, 179 (2002)
- The H¹³CN/HC¹⁵N Abundance Ratio in Dense Cores: Possible Source-to-Source Variation of Isotope Abundances? Masafumi Ikeda, Tomoya Hirota, & Satoshi Yamamoto. 575, 250 (2002)
- Interaction between Ionized and Molecular Gas in the Active Star-forming Region W31. Kee-Tae Kim & Bon-Chul Koo. 575, 327 (2002)
- Modeling Line Profiles of Photostellar Collapse Observed with High Angular Resolution. Minho Choi. 575, 900 (2002)
- A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)

RADIO LINES: STARS

Near-Infrared Synchrotron Emission from the Compact Jet of GX 339-4. S. Corbel & R. P. Fender. 573, L35 (2002)

REFERENCE SYSTEMS

Astrometry Survey Missions beyond the Magnitude Limit. Samir Salim, Andrew Gould, & Rob P. Olling, 573, 631 (2002)

RELATIVITY

- Spin-induced Disk Precession in the Supermassive Black Hole at the Galactic Center, Siming Liu & Fulvio Melia. 573, L23 (2002)
- The Light Cone Effect on the Shapiro Time Delay. Hideki Asada. 574, L69 (2002)
- Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8—2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)

SCATTERING

- On the Atomic Polarization of the Ground Level of Na I. Roberto Casini, Egidio Landi Degl'Innocenti, Marco Landolfi, & Javier Trujillo Bueno. 573, 864 (2002)
- First Measurement of Cluster Temperature Using the Thermal Sunyaev-Zeldovich Effect. Steen H. Hansen, Sergio Pastor, & Dmitry V. Semikoz. 573, L69 (2002)
- Scattering and Absorption by Aligned Grains in Circumstellar Environments. Barbara A. Whitney & Michael J. Wolff. 574, 205 (2002)
- Can Reflection from Grains Diagnose the Albedo? John S. Mathis, Barbara A. Whitney, & Kenneth Wood. 574, 812 (2002)
- NICMOS Images of the GG Tau Circumbinary Disk. C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002)

SHOCK WAVES

- Analytic and Numerical Models for the Knots along the HH 111 Jet. E. Masciadri, P. F. Velázquez, A. C. Raga, J. Cantó, & A. Noriega-Crespo. 573, 260 (2002)
- Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)
- The X-Ray Spectrum of Supernova Remnant 1987A. Eli Michael, Svetozar Zhekov, Richard McCray, Una Hwang, David N. Burrows, Sangwook Park, Gordon P. Garmire, Stephen S. Holt, & Günther Hasinger. 574, 166 (2002)
- Bow Shocks from Neutron Stars: Scaling Laws and Hubble Space Telescope Observations of the Guitar Nebula. S. Chatterjee & J. M. Cordee. 575, 407 (2002)
- Electrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson,

- R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)
- Energetic Particle Abundances as Probes of an Interplanetary Shock Wave. D. V. Reames & A. J. Tylka. 575, L37 (2002)
- Injection of Radioactivities into the Forming Solar System. Harri A. T. Vanhala & Alan P. Boss. 575, 1144 (2002)

SOLAR SYSTEM: FORMATION

- Calculating the Tidal, Spin, and Dynamical Evolution of Extrasolar Planetary Systems. Rosemary A. Mardling & D. N. C. Lin. 573, 829 (2002)
- Injection of Radioactivities into the Forming Solar System. Harri A. T. Vanhala & Alan P. Boss. 575, 1144 (2002)

STARS: ABUNDANCES

- Cosmic-Ray Production of ⁶Li by Structure Formation Shocks in the Early Milky Way: A Fossil Record of Dissipative Processes during Galaxy Formation. Takeru Ken Suzuki & Susumu Inoue. 573, 168 (2002)
- Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)
- Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs. Masahide Takada-Hidai, Yoichi Takeda, Shizuka Sato, Satoshi Honda, Kozo Sadakane, Satoshi Kawanomoto, Wallace L. W. Sargent, Limin Lu, & Thomas A. Barlow. 573, 614 (2002)
- Mixing and Accretion in a λ Bootis Stars. S. Turcotte. 573, L129 (2002)
- Stellar Mixing and the Primordial Lithium Abundance. M. H. Pinsonneault, G. Steigman, T. P. Walker, & V. K. Narayanan. 574, 398 (2002)
- Keck NIRSPEC Infrared OH Lines: Oxygen Abundances in Metal-poor Stars Down to [Fe/H] = −2.9. Jorge Meléndez & Beatriz Barbuy. 575, 474 (2002)
- A Simple Model for r-Process Scatter and Halo Evolution. Brian D. Fields, James W. Truran, & John J. Cowan. 575, 845 (2002)

STARS: ACTIVITY

- X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- The Coronal Topology of the Rapidly Rotating K0 Dwarf AB Doradus. I. Using Surface Magnetic Field Maps to Model the Structure of the Stellar Corona. G. A. J. Hussain, A. A. van Ballegooijen, M. Jardine, & A. Collier Cameron. 575, 1078 (2002)

STARS: AGB AND POST-AGB

- The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries. C. Alcock, R. A. Allsman, D. R. Alves, A. C. Becker, D. P. Bennett, K. H. Cook, A. J. Drake, K. C. Freeman, K. Griest, S. L. Hawley, S. Keller, M. J. Lehner, D. Lepischak, S. L. Marshall, D. Minniti, C. A. Nelson, B. A. Peterson, P. Popowski, M. R. Pratt, P. J. Quinn, A. W. Rodgers, N. Suntzeff, W. Sutherland, T. Vandehei, & D. L. Welch (The MACHO Collaboration). 573, 338 (2002)
- High-Resolution CO and H₂ Molecular Line Imaging of a Cometary Globule in the Helix Nebula. P. J. Huggins, T. Forveille, R. Bachiller, P. Cox, N. Ageorges, & J. R. Walsh. 573, L55 (2002)
- Subarcsecond Mid-Infrared Imaging of Two Post–Asymptotic Giant Branch 21 Micron Sources. Sun Kwok, Kevin Volk, & Bruce J. Hrivnak. 573, 720 (2002)
- Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)
- VLA Observations of H i in the Helix Nebula (NGC 7293). Luis F. Rodríguez, W. M. Goss, & Robert Williams. 574, 179 (2002)
- Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)
- The Massive Disk around OH 231.8+4.2. M. Jura, C. Chen, & P. Plavchan. 574, 936 (2002)
- The Synthesis of Benzene in the Proto-planetary Nebula CRL 618. Paul M. Woods, T. J. Millar, A. A. Zijlstra, & Eric Herbst. 574, L167 (2002)
- Slitless Spectroscopy of Large Magellanic Cloud Planetary Nebulae: A Study of the Emission Lines and Morphology. Letizia Stanghellini, Richard A. Shaw, Max Mutchler, Stacy Palen, Bruce Balick, & J. Chris Blades. 575, 178 (2002)

STARS: ATMOSPHERES

- Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)
- Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs. Masahide Takada-Hidai, Yoichi Takeda, Shizuka Sato, Satoshi Honda, Kozo Sadakane, Satoshi Kawanomoto, Wallace L. W. Sargent, Limin Lu, & Thomas A. Barlow. 573, 614 (2002)
- Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)
- Dust in the Photospheric Environment: Unified Cloudy Models of M, L, and T Dwarfs. *Takashi Tsuji*. 575, 264 (2002)
- Imaging Spectroscopy of a Sunspot: Thermal and Velocity Structure. K. S. Balasubramaniam. 575, 553 (2002)

STARS: BINARIES: CLOSE

- Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions. David Pooley, Walter H. G. Lewin, Frank Verbunt, Lee Homer, Bruce Margon, Bryan M. Gaensler, Victoria M. Kaspi, Jon M. Miller, Derek W. Fox, & Michiel van der Klis. 573, 184 (2002)
- The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657–415. Deepto Chakrabarty, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)
- Chandra Observation of Low-Mass X-Ray Binaries in the Elliptical Galaxy M84. A. Finoguenov & C. Jones. 574, 754 (2002)
- The Peculiar Infrared Counterpart of GX 17+2. Paul J. Callanan, Peter Curran, Alexei V. Filippenko, Michael R. Garcia, Bruce Margon, Eric Deutsch, Scott Anderson, Lee Homer, & Rob P. Fender. 574, L143 (2002)
- Formation and Evolution of Microquasar GRS 1915+105. Krzysztof Belczynski & Tomasz Bulik. 574, L147 (2002)
- Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. Gänsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)
- An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence. S. Campana, L. Stella, F. Gastaldello, S. Mereghetti, M. Colpi, G. L. Israel, L. Burderi, T. Di Salvo, & R. N. Robba. 575, L15 (2002)
- Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)
- NICMOS Images of the GG Tau Circumbinary Disk. C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002)
- Discovery of a Black Hole Mass-Period Correlation in Soft X-Ray Transients and Its Implication for Gamma-Ray Burst and Hypernova Mechanisms. C.-H. Lee, G. E. Brown, & R. A. M. J. Wijers. 575, 996 (2002)
- Parameter Estimation for Galactic Binaries by the Laser Interferometer Space Antenna. Ryuichi Takahashi & Naoki Seto. 575, 1030 (2002)
- Envelope Ejection: An Alternative Evolutionary Process for Some Early Case B Binaries. Peter P. Eggleton. 575, 1037 (2002)
- Analysis of H₂ Emission from Mira B in Ultraviolet Spectra from the Hubble Space Telescope. Brian E. Wood, Margarita Karovska, & John C. Raymond. 575, 1057 (2002)

STARS: BINARIES: ECLIPSING

- The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries. C. Alcock, R. A. Allsman, D. R. Alves, A. C. Becker, D. P. Bennett, K. H. Cook, A. J. Drake, K. C. Freeman, K. Griest, S. L. Hawley, S. Keller, M. J. Lehner, D. Lepischak, S. L. Marshall, D. Minniti, C. A. Nelson, B. A. Peterson, P. Popowski, M. R. Pratt, P. J. Quinn, A. W. Rodgers, N. Suntzeff, W. Sutherland, T. Vandehei, & D. L. Welch (The MACHO Collaboration). 573, 338 (2002)
- The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657–415. Deepto Chakrabarty, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)
- Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)

- Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- Eclipse Timings of the Low-Mass X-Ray Binary EXO 0748-676. III.

 Orbital Period Jitter Observed with the Unconventional Stellar Aspect
 Experiment and the Rossi X-Ray Timing Explorer. Michael T. Wolff, Paul
 Hertz, Kent S. Wood, Paul S. Ray, & Reba M. Bandyopadhyay. 575, 384
 (2002)
- The Evolution of Cool Algols. Peter P. Eggleton & Ludmila Kiseleva-Eggleton. 575, 461 (2002)

STARS: BINARIES: GENERAL

- Effect of a Wide Binary Companion to the Lens on the Astrometric Behavior of Gravitational Microlensing Events. Jin H. An & Cheongho Han. 573, 351 (2002)
- PSR J1740-5340: Accretion Inhibited by Radio Ejection in a Binary Millisecond Pulsar in the Globular Cluster NGC 6397. Luciano Burderi, Francesca D'Antona, & Marta Burgay. 574, 325 (2002)
- The Scintillation Velocity of the Relativistic Binary Pulsar PSR J1141-6545. S. M. Ord, M. Bailes, & W. van Straten. 574, L75 (2002)
- Gravitational Microlensing near Caustics. I. Folds. B. Scott Gaudi & A. O. Petters. 574, 970 (2002)
- The Variability of the Hg II λ3984 Line of the Mercury-Manganese Star α Andromedae. Saul J. Adelman, Austin F. Gulliver, Oleg P. Kochukhov, & Tanya A. Ryabchikova. 575, 449 (2002)

STARS: BINARIES: SPECTROSCOPIC

- Rotational Velocities of B Stars. Helmut A. Abt, Hugo Levato, & Monica Grosso. 573, 359 (2002)
- A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity. Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)
- Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)
- The Variability of the Hg II λ3984 Line of the Mercury-Manganese Star α Andromedae. Saul J. Adelman, Austin F. Gulliver, Oleg P. Kochukhov, & Tanya A. Ryabchikova. 575, 449 (2002)
- Tomographic Separation of Composite Spectra. IX. The Massive Close Binary HD 115071. Laura R. Penny, Douglas R. Gies, John H. Wise, D. J. Stickland, & C. Lloyd. 575, 1050 (2002)

STARS: BINARIES: SYMBIOTIC

Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)

STARS: CARBON

- An Upper Limit to the Age of the Galactic Bar. Andrew A. Cole & Martin D. Weinberg. 574, L43 (2002)
- New Prescriptions for Growing Interstellar Carbonaceous Cauliflowers. Dieter Heymann & Marie Pontier-Johnson. 574, L91 (2002)

STARS: CHEMICALLY PECULIAR

The Variability of the Hg II λ3984 Line of the Mercury-Manganese Star α Andromedae. Saul J. Adelman, Austin F. Gulliver, Oleg P. Kochukhov, & Tanya A. Ryabchikova. 575, 449 (2002)

STARS: CIRCUMSTELLAR MATTER

- IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)
- A Search for Radio Emission from Supernovae with Ages from about 1 Week to More than 80 Years. *Christopher R. Eck, John J. Cowan, & David Branch.* 573, 306 (2002)
- Mid-Infrared Images of the Debris Disk around HD 141569. K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
- Subarcsecond Mid-Infrared Imaging of Two Post–Asymptotic Giant Branch 21 Micron Sources. Sun Kwok, Kevin Volk, & Bruce J. Hrivnak. 573, 720 (2002)
- A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity. Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)

- Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Hα 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)
- Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)
- Scattering and Absorption by Aligned Grains in Circumstellar Environments. Barbara A. Whitney & Michael J. Wolff. 574, 205 (2002)
- Halting Planet Migration in the Evacuated Centers of Protoplanetary Disks. Marc J. Kuchner & Myron Lecar. 574, L87 (2002)
- The Massive Disk around OH 231.8+4.2. M. Jura, C. Chen, & P. Plavchan. 574, 936 (2002)
- X-Ray and Optical Variations in the Classical Be Star γ Cassiopeia: The Discovery of a Possible Magnetic Dynamo. Richard D. Robinson, Myron A. Smith, & Gregory W. Henry. 575, 435 (2002)
- Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christopher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, & J. Craig Wheeler. 575, 1007 (2002)

STARS: CORONAE

The Coronal Topology of the Rapidly Rotating K0 Dwarf AB Doradus. I. Using Surface Magnetic Field Maps to Model the Structure of the Stellar Corona. G. A. J. Hussain, A. A. van Ballegooijen, M. Jardine, & A. Collier Cameron. 575, 1078 (2002)

STARS: DISTANCES

- Resolving the 47 Tucanae Distance Problem. Susan M. Percival, Maurizio Salaris, Francois van Wyk, & David Kilkenny. 573, 174 (2002)
- On the Distance of Magellanic Clouds: First Overtone Cepheids. G. Bono, M. A. T. Groenewegen, M. Marconi, & F. Caputo. 574, L33 (2002)
- Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)

STARS: EARLY-TYPE

- Galactic Starburst NGC 3603 from X-Rays to Radio. A. F. J. Moffat, M. F. Corcoran, I. R. Stevens, G. Skalkowski, S. V. Marchenko, A. Mücke, A. Ptak, B. S. Koribalski, L. Brenneman, R. Mushotzky, J. M. Pittard, A. M. T. Pollock, & W. Brandner. 573, 191 (2002)
- Photoevaporation of Clumps in Photodissociation Regions. U. Gorti & D. Hollenbach. 573, 215 (2002)
- Rotational Velocities of B Stars. Helmut A. Abt, Hugo Levato, & Monica Grosso. 573, 359 (2002)
- X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)
- Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)
- Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
- Tomographic Separation of Composite Spectra. IX. The Massive Close Binary HD 115071. Laura R. Penny, Douglas R. Gies, John H. Wise, D. J. Stickland, & C. Lloyd. 575, 1050 (2002)

STARS: EMISSION-LINE, BE

- A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity. Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)
- Bayesian Analysis of Radio Observations of the Be X-Ray Binary LS I +61°303. P. C. Gregory. 575, 427 (2002)

STARS: EVOLUTION

- Resolving the 47 Tucanae Distance Problem. Susan M. Percival, Maurizio Salaris, Francois van Wyk, & David Kilkenny. 573, 174 (2002)
- Mode-switching Timescales in the Classical Variable Stars. J. Robert Buchler & Zoltán Kolláth. 573, 324 (2002)

- Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)
- Mixing and Accretion in a λ Bootis Stars. S. Turcotte. 573, L129 (2002)
- Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)
- On the Distance of Magellanic Clouds: First Overtone Cepheids. G. Bono, M. A. T. Groenewegen, M. Marconi, & F. Caputo. 574, L33 (2002)
- Modeling Core-Collapse Supernovae in Three Dimensions. Chris L. Fryer & Michael S. Warren. 574, L65 (2002)
- Formation and Evolution of Microquasar GRS 1915+105. Krzysztof Belczynski & Tomasz Bulik. 574, L147 (2002)
- Slitless Spectroscopy of Large Magellanic Cloud Planetary Nebulae: A Study of the Emission Lines and Morphology. Letizia Stanghellini, Richard A. Shaw, Max Mutchler, Stacy Palen, Bruce Balick, & J. Chris Blades. 575, 178 (2002)
- The Evolution of Cool Algols. Peter P. Eggleton & Ludmila Kiseleva-Eggleton. 575, 461 (2002)
- Envelope Ejection: An Alternative Evolutionary Process for Some Early Case B Binaries. *Peter P. Eggleton.* 575, 1037 (2002)
- Tomographic Separation of Composite Spectra. IX. The Massive Close Binary HD 115071. Laura R. Penny, Douglas R. Gies, John H. Wise, D. J. Stickland, & C. Lloyd. 575, 1050 (2002)

STARS: FLARE

X-Ray and Optical Variations in the Classical Be Star γ Cassiopeia: The Discovery of a Possible Magnetic Dynamo. Richard D. Robinson, Myron A. Smith, & Gregory W. Henry. 575, 435 (2002)

STARS: FORMATION

- Globular Clusters at High Redshift. R. G. Carlberg. 573, 60 (2002)
- Mechanism of Magnetic Flux Loss in Molecular Clouds. Takenori Nakano, Ryoichi Nishi, & Toyoharu Umebayashi. 573, 199 (2002)
- Photoevaporation of Clumps in Photodissociation Regions. U. Gorti & D. Hollenbach. 573, 215 (2002)
- A Metal-poor Compact H II Region with a Small, Isolated, and Dense Young Stellar Cluster. *Jun-Jie Wang, Jian-Yan Wei, & Jing-Yao Hu.* 573, 238 (2002)
- IRAS 21391+5802: The Molecular Outflow and Its Exciting Source. Maria T. Beltrán, José M. Girart, Robert Estalella, Paul T. P. Ho, & Aina Palau. 573, 246 (2002)
- Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)
- X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with Chandra. Shin-ichiro Takagi, Hiroshi Murakami, & Katsuji Koyama. 573, 275 (2002)
- The Evolution of the Circumstellar Environment of Embedded Young Stars from Observations of Rare Species of Carbon Monoxide. G. A. Fuller & E. F. Ladd. 573, 699 (2002)
- Cooling Flows of Self-gravitating, Rotating, Viscous Systems. Mohsen Shadmehri & Jamshid Ghanbari. 574, 198 (2002)
- Scattering and Absorption by Aligned Grains in Circumstellar Environments. Barbara A. Whitney & Michael J. Wolff. 574, 205 (2002)
- Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources. Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)
- The Highly Collimated HH 92 Jet and Parsec-Scale Outflow from IRAS 05399-0121. John Bally, Bo Reipurth, & Colin Aspin. 574, L79 (2002)
- Halting Planet Migration in the Evacuated Centers of Protoplanetary Disks. Marc J. Kuchner & Myron Lecar. 574, L87 (2002)
- Magnetic Fields in Star-forming Molecular Clouds. V. Submillimeter Polarization of the Barnard 1 Dark Cloud. Brenda C. Matthews & Christine D. Wilson. 574, 822 (2002)
- Formation and Evolution of Microquasar GRS 1915+105. Krzysztof Belczynski & Tomasz Bulik. 574, L147 (2002)
- Self-gravitating Magnetically Supported Protostellar Disks and the Formation of Substellar Companions. Zhi-Yun Li. 574, L159 (2002)
- On the Heating Source of the Orion KL Hot Core. P. de Vicente, J. Martín-Pintado, R. Neri, & A. Rodríguez-Franco. 574, L163 (2002)
- Molecular Hydrogen Outflows in W51. Klaus W. Hodapp & Christopher J. Davis. 575, 291 (2002)

- Collapse of Rotating Magnetized Molecular Cloud Cores and Mass Outflows. Kohji Tomisaka. 575, 306 (2002)
- Interaction between Ionized and Molecular Gas in the Active Star-forming Region W31. Kee-Tae Kim & Bon-Chul Koo. 575, 327 (2002)
- Tracing the Mass during Low-Mass Star Formation. III. Models of the Submillimeter Dust Continuum Emission from Class O Protostars. Yancy L. Shirley, Neal J. Evans II, & Jonathan M. C. Rawlings. 575, 337 (2002)
- Star Formation Associated with the X-Ray Jet in Centaurus A. John A. Graham & Caleb I. Fassett. 575, 712 (2002)
- Modeling Line Profiles of Photostellar Collapse Observed with High Angular Resolution. *Minho Choi.* 575, 900 (2002)
- The Great PV Cephei Outflow: A Case Study in Outflow-Cloud Interaction. Héctor G. Arce & Alyssa A. Goodman. 575, 911 (2002)
- Bow Shocks, Wiggling Jets, and Wide-Angle Winds: A High-Resolution Study of the Entrainment Mechanism of the PV Cephei Molecular (CO) Outflow. Héctor G. Arce & Alyssa A. Goodman. 575, 928 (2002)
- A Complete Search for Dense Cloud Cores in Taurus. Toshikazu Onishi, Akira Mizuno, Akiko Kawamura, Kengo Tachihara, & Yasuo Fukui. 575, 950 (2002)

STARS: FUNDAMENTAL PARAMETERS

- Long-Baseline Interferometric Observations of Cepheids. Benjamin F. Lane, Michelle J. Creech-Eakman, & Tyler E. Nordgren. 573, 330 (2002)
- Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)
- Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)
- Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz, 574, 957 (2002)
- Gravitational Microlensing near Caustics. I. Folds. B. Scott Gaudi & A. O. Petters. 574, 970 (2002)
- Dust in the Photospheric Environment: Unified Cloudy Models of M, L, and T Dwarfs. *Takashi Tsuji*. 575, 264 (2002)

STARS: HERTZSPRUNG-RUSSELL DIAGRAM

K-Band Red Clump Distance to the Large Magellanic Cloud. David R. Alves, Marina Rejkuba, Dante Minniti, & Kem H. Cook. 573, L51 (2002)

STARS: HORIZONTAL-BRANCH

K-Band Red Clump Distance to the Large Magellanic Cloud. David R. Alves, Marina Rejkuba, Dante Mimiti, & Kem H. Cook. 573, L51 (2002)

STARS: INDIVIDUAL

Constellation Name: α Andromedae

The Variability of the Hg II λ3984 Line of the Mercury-Manganese Star α Andromedae. Saul J. Adelman, Austin F. Gulliver, Oleg P. Kochukhov, & Tanya A. Ryabchikova. 575, 449 (2002)

Constellation Name: υ Andromedae

A Dynamical Mechanism for Establishing Apsidal Resonance. Renu Malhotra. 575, L33 (2002)

Constellation Name: LL Andromedae

Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. Gänsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)

Constellation Name: RX Andromedae

Hubble Space Telescope Spectroscopy of the Dwarf Nova RX Andromedae during Outbust Rise and Decline. Jeremy F. Sepinsky, Edward M. Sion, Paula Szkody, & Boris T. Gänsicke. 574, 937 (2002)

Constellation Name: π Aquarii

A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity. Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)

Constellation Name: Aquila X-1

Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)

Constellation Name: η Aquilae

Long-Baseline Interferometric Observations of Cepheids. Benjamin F. Lane, Michelle J. Creech-Eakman, & Tyler E. Nordgren. 573, 330 (2002)

Constellation Name: EH Cancri

Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)

Constellation Name: Cassiopeiae

X-Ray and Optical Variations in the Classical Be Star γ Cassiopeia: The Discovery of a Possible Magnetic Dynamo. Richard D. Robinson, Myron A. Smith, & Gregory W. Henry. 575, 435 (2002)

Constellation Name: V723 Cassiopeiae

Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995).
Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)

Constellation Name: Centaurus X-4

Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)

Constellation Name: o Ceti

Analysis of H₂ Emission from Mira B in Ultraviolet Spectra from the Hubble Space Telescope. Brian E. Wood, Margarita Karovska, & John C. Raymond. 575, 1057 (2002)

Constellation Name: Chamaeleon Ha

Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Hα 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)

Constellation Name: (Geminorum

Long-Baseline Interferometric Observations of Cepheids. Benjamin F. Lane, Michelle J. Creech-Eakman, & Tyler E. Nordgren. 573, 330 (2002)

Constellation Name: GW Librae

Hubble Space Telescope Spectra of GW Librae: A Hot Pulsating White Dwarf in a Cataclysmic Variable. Paula Szkody, Boris T. Gänsicke, Steve B. Howell, & Edward M. Sion. 575, L79 (2002)

Constellation Name: EE Pegasi

Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. Gänsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)

Constellation Name: X Persei

Ultraviolet Detection of Interstellar ¹²C¹⁷O and the CO Isotopomeric Rations toward X Persei. Yaron Sheffer, David L. Lambert, & S. R. Federman. 574, L171 (2002)

Constellation Name: GG Tauri

NICMOS Images of the GG Tau Circumbinary Disk. C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002)

Constellation Name: HV Virginis

Cool White Dwarfs in Cataclysmic Variables: *Hubble Space Telescope* Results on EG Cancri and HV Virginis. *Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell.* 574, 950 (2002)

Henry Draper Number: HD 37903

ORFEUS Observations of the Foreground Gas toward HD 37903. Dae-Hee Lee. Kyoung-Wook Min, S. R. Federman, Kwang-Sun Ryu, Won-Yong Han, Uk-Won Nam, Hyun-Soo Chung, W. Van Dyke Dixon, & Mark Hurwitz, 575, 234 (2002)

Henry Draper Number: HD 62542

Unusually Weak Diffuse Interstellar Bands toward HD 62542. Theodore P. Snow, Daniel E. Welty, Julie Thorburn, L. M. Hobbs, Benjamin J. McCall, Paule Sonnentrucker, & Donald G. York. 573, 670 (2002)

Henry Draper Number: HD 83443

A Dynamical Mechanism for Establishing Apsidal Resonance. Renu Malhotra. 575, L33 (2002)

Henry Draper Number: HD 101131

Tomographic Separation of Composite Spectra. X. The Massive Close Binary HD 101131. Douglas R. Gies, Laura R. Penny, Pavel Mayer, Horst Drechsel, & Reinald Lorenz. 574, 957 (2002)

Henry Draper Number: HD 115071

Tomographic Separation of Composite Spectra. IX. The Massive Close Binary HD 115071. Laura R. Penny, Douglas R. Gies, John H. Wise, D. J. Stickland, & C. Lloyd. 575, 1050 (2002)

Henry Draper Number: HD 141569

Mid-Infrared Images of the Debris Disk around HD 141569. K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)

Henry Draper Number: HD 209458

Stability of Satellities around Close-in Extrasolar Giant Planets. Jason W. Barnes & D. P. O'Brien. 575, 1087 (2002)

Alphanumeric: AV 304

Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)

Alphanumeric: CPD -56°8032

Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)

Alphanumeric: CRL 618

The Synthesis of Benzene in the Proto-planetary Nebula CRL 618. Paul M. Woods, T. J. Millar, A. A. Zijlstra, & Eric Herbst. 574, L167 (2002)

Alphanumeric: EROS 1044

Fundamental Properties and Distances of Large Magellanic Cloud Eclipsing Binaries. III. EROS 1044. Ignasi Ribas, Edward L. Fitzpatrick, Frank P. Maloney, Edward F. Guinan, & Andrzej Udalski. 574, 771 (2002)

Alphanumeric: EXO 0748-676

Eclipse Timings of the Low-Mass X-Ray Binary EXO 0748-676. III. Orbital Period Jitter Observed with the Unconventional Stellar Aspect Experiment and the Rossi X-Ray Timing Explorer. Michael T. Wolff, Paul Hertz, Kent S. Wood, Paul S. Ray, & Reba M. Bandyopadhyay. 575, 384 (2002)

Alphanumeric: GD 358

Measuring 12 C(α , γ) 16 O from White Dwarf Asteroseimology. *T. S. Metcalfe, M. Salaris, & D. E. Winget.* 573, 803 (2002)

Alphanumeric: GX 17+2

The Peculiar Infrared Counterpart of GX 17+2. Paul J. Callanan, Peter Curran, Alexei V. Filippenko, Michael R. Garcia, Bruce Margon, Eric Deutsch, Scott Anderson, Lee Homer, & Rob P. Fender. 574, L143 (2002)

Alphanumeric: GX 339-4

Near-Infrared Synchrotron Emission from the Compact Jet of GX 339-4.
S. Corbel & R. P. Fender. 573, L35 (2002)

Alphanumeric: He 2-113

Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)

Alphanumeric: KS 1731-260

XMM-Newton Observations of the Neutron Star X-Ray Transient KS 1731–260 in Quiescence. Rudy Wijnands, Matteo Guainazzi, Michiel van der Klis, & Mariano Méndez. 573, L45 (2002)

A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star. L. Burderi, T. Di Salvo, L. Stella, F. Fiore, N. R. Robba, M. van der Klis, R. Iaria, M. Mendez, M. T. Menna, S. Campana, G. Gennaro, S. Rebecchi, & M. Burgay. 574, 930 (2002)

Alphanumeric: LP 944-20

Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Hα 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)

Alphanumeric: SAX J1750.8-2900

Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8-2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)

Alphanumeric: SAX J1808.4-3658

Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)

An XMM-Newton Study of the 401 Hz Accreting Pulsar SAX J1808.4—305 in Quiescence. S. Campana, L. Stella, F. Gastaldello, S. Mereghetti, M. Colpi, G. L. Israel, L. Burderi, T. Di Salvo, & R. N. Robba. 575, L15 (2002)

Alphanumeric: SGR 1806-20

Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806-20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)

Alphanumeric: SS 433

Circular Polarization from Stochastic Synchrotron Sources. Mateusz Ruszkowski & Mitchell C. Begelman. 573, 485 (2002)

Alphanumeric: 4U 2129+47

Hiding in Plain Sight: Chandra Observations of the Quiescent Neutron Star 4U 2129+47 in Eclipse. Michael A. Nowak, Sebastian Heinz, & M. C. Begelman. 573, 778 (2002)

STARS: INTERIORS

On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)

Measuring 12 C(α , γ) 16 O from White Dwarf Asteroseimology. T. S. Metcalfe, M. Salaris, & D. E. Winget. 573, 803 (2002)

Mixing and Accretion in a λ Bootis Stars. S. Turcotte. 573, L129 (2002)

STARS: KINEMATICS

Discovery of an Accreted Stellar System within the Globular Cluster ω Centauri. F. R. Ferraro, M. Bellazzini, & E. Pancino. 573, L95 (2002)

Deciphering the Last Major Invasion of the Milky Way. Gerard Gilmore, Rosemary F.G. Wyse, & John E. Norris. 574, L39 (2002)

The Scintillation Velocity of the Relativistic Binary Pulsar PSR J1141-6545. S. M. Ord, M. Bailes, & W. van Straten. 574, L75 (2002)

The Origin of the β Pictoris Moving Group. V. G. Ortega, R. de la Reza, E. Jilinski, & B. Bazzanella. 575, L75 (2002)

STARS: LATE-TYPE

On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)

Astrometry Survey Missions beyond the Magnitude Limit. Samir Salim, Andrew Gould, & Rob P. Olling. 573, 631 (2002)

Angular Momentum Exraction by Gravity Waves in the Sun. Suzanne Talon, Pawan Kumar, & Jean-Paul Zahn. 574, L175 (2002)

Dust in the Photospheric Environment: Unified Cloudy Models of M, L, and T Dwarfs. *Takashi Tsuji*. 575, 264 (2002)

STARS: LOW-MASS, BROWN DWARFS

The Luminosity and Mass Function of the Trapezium Cluster: from B Stars to the Deuterium-burning Limit. August A. Muench, Elizabeth A. Lada, Charles J. Lada, & João Alves. 573, 366 (2002)

Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)

Probing Dust around Brown Dwarfs: The Naked LP 944-20 and the Disk of Chamaeleon Hα 2. D. Apai, I. Pascucci, Th. Henning, M. F. Sterzik, R. Klein, D. Semenov, E. Günther, & B. Stecklum. 573, L115 (2002)

X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)

The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4. Harvey B. Richer, James Brewer, Gregory G. Fahlman, Brad K. Gibson, Brad M. Hansen, Rodrigo Ibata, Jasonjot S. Kalirai, Marco Limongi, R. Michael Rich, Ivo Saviane, Michael M. Shara, & Peter B. Stetson. 574, L151 (2002)

Self-gravitating Magnetically Supported Protostellar Disks and the Formation of Substellar Companions. Zhi-Yun Li. 574, L159 (2002)

Dust in the Photospheric Environment: Unified Cloudy Models of M, L, and T Dwarfs. Takashi Tsuji. 575, 264 (2002)

Brown Dwarfs and the TW Hydrae Association. John E. Gizis. 575, 484 (2002)

STARS: LUMINOSITY FUNCTION, MASS FUNCTION

The Luminosity and Mass Function of the Trapezium Cluster: from B Stars to the Deuterium-burning Limit. August A. Muench, Elizabeth A. Lada, Charles J. Lada, & João Alves. 573, 366 (2002)

The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4. Harvey B. Richer, James Brewer, Gregory G. Fahlman, Brad K. Gibson, Brad M. Hansen, Rodrigo Ibata, Jasonjot S. Kalirai, Marco Limongi, R. Michael Rich, Ivo Saviane, Michael M. Shara, & Peter B. Stetson. 574, L151 (2002)

The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.

Brad M. S. Hansen, James Brewer, Greg G. Fahlman, Brad K. Gibson,
Rodrigo Ibata, Marco Limongi, R. Michael Rich, Harvey B. Richer,
Michael M. Shara, & Peter B. Stetson. 574, L155 (2002)

STARS: MAGNETIC FIELDS

New Tests of Magnetospheric Accretion in T Tauri Stars. Christopher M. Johns-Krull & April D. Gafford. 573, 685 (2002)

Simulation-based Investigation of a Model for the Interaction between Stellar Magnetospheres and Circumstellar Accretion Disks. Sean Matt. Anthony P. Goodson, Robert M. Winglee, & Karl-Heinz Bohm. 574, 232 (2002)

Hydromagnetic Instabilities in Proto-Neutron Stars. Juan A. Miralles, José A. Pons, & Vadim A. Urpin. 574, 356 (2002)

Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806–20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)

r-Modes in the Ocean of a Magnetic Neutron Star. Vahid Rezania. 574, 899 (2002)

Normal Modes of Rotating Magnetic Stars. S. M. Morsink & V. Rezania. 574, 908 (2002)

Timing Properties of Magnestars. Feryal Özel. 575, 397 (2002)

The Evolution of Cool Algols. Peter P. Eggleton & Ludmila Kiseleva-Eggleton. 575, 461 (2002)

STARS: MASS LOSS

X-Ray Emission from the Type Ic Supernova 1994I Observed with Chandra. Stefan Immler, Andrew S. Wilson, & Yuichi Terashima. 573, L27 (2002)

Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)

Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources. Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)

The Massive Disk around OH 231.8+4.2. M. Jura, C. Chen, & P. Plavchan. 574, 936 (2002)

The Evolution of Cool Algols. Peter P. Eggleton & Ludmila Kiseleva-Eggleton. 575, 461 (2002)

STARS: NEUTRON

Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions. David Pooley, Walter H. G. Lewin, Frank Verbunt. Lee Homer, Bruce Margon, Bryan M. Gaensler, Victoria M. Kaspi, Jon M. Miller, Derek W. Fox, & Michiel van der Klis. 573, 184 (2002)

A Comprehensive Study of Neutron Star Retention in Globular Clusters. Eric Pfahl, Saul Rappaport, & Philipp Podsiadlowski. 573, 283 (2002)

The Next Geminga: Deep Multiwavelength Observations of a Neutron Star Identified with 3EG J1835+5918. J. P. Halpern, E. V. Gotthelf, N. Mirabal, & F. Camilo. 573, L41 (2002)

Implications of Neutron Decoupling in Short Gamma-Ray Bursts. Jason Pruet & Neal Dalal. 573, 770 (2002)

Hiding in Plain Sight: Chandra Observations of the Quiescent Neutron Star 4U 2129+47 in Eclipse. Michael A. Nowak, Sebastian Heinz, & M. C. Begelman. 573, 778 (2002)

The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657–415. Deepto Chakrabarty, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)

Decapitating the Duck: The (Non)Association of PSR B1757–24 and Supernova Remnant G5.4–1.2. S. E. Thorsett, W. F. Brisken, & W. M. Goss. 573, L111 (2002)

PSR J1740-5340: Accretion Inhibited by Radio Ejection in a Binary Millisecond Pulsar in the Globular Cluster NGC 6397. Luciano Burderi, Francesca D'Antona, & Marta Burgay. 574, 325 (2002)

Electrodynamics of Magnetars: Implications for the Persistent X-Ray Emission and Spin-down of the Soft Gamma Repeaters and Anomalous X-Ray Pulsars. C. Thompson, M. Lyutikov, & S. R. Kulkarni. 574, 332 (2002)

Hydromagnetic Instabilities in Proto-Neutron Stars. Juan A. Miralles, José A. Pons, & Vadim A. Urpin. 574, 356 (2002)

A New Class of High-Mass X-Ray Binaries for Core Collapse and Neutron Star Recoil. Eric Pfahl, Saul Rappaport, Philipp Podsiadlowski, & Hendrik Spruit. 574, 364 (2002) Using the High-Resolution X-Ray Spectrum of PSR B0656+14 to Constrain the Chemical Composition of the Neutron Star Atmosphere. Herman L. Marshall & Norbert S. Schulz. 574, 377 (2002)

Discovery of a Possible Anomolous X-Ray Pulsar in the Small Magellanic Cloud. R. C. Lamb, D. W. Fox, D. J. Macomb, & T. A. Prince. 574, L29 (2002)

Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806–20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)

Low-Mass X-Ray Binaries May Be Important Laser Interferometer Gravitational-Wave Observatory Sources After All. Jeremy S. Heyl. 574, L57 (2002)

Discovery of Absorption Features in the X-Ray Spectrum of an Isolated Neutron Star. D. Sanwal, G. G. Pavlov, V. E. Zavlin, & M. A. Teter. 574, L61 (2002)

BeppoSAX Observations of the Young Pulsar in the Kes 75 Supernova Remnant. S. Mereghetti, R. Bandiera, F. Bocchino, & G. L. Israel. 574, 873 (2002)

Broadening of Nearly Neutral Iron Emission Line of GX 301-2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)

r-Modes in the Ocean of a Magnetic Neutron Star. Vahid Rezania. 574, 899 (2002)

Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)

A BeppoSAX Observation of KS 1731–260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star. L. Burderi, T. Di Salvo, L. Stella, F. Fiore, N. R. Robba, M. van der Klis, R. Iaria, M. Mendez, M. T. Menna, S. Campana, G. Gennaro, S. Rebecchi, & M. Burgay. 574, 930 (2002)

Timing Properties of Magnestars. Feryal Özel. 575, 397 (2002)

Bow Shocks from Neutron Stars: Scaling Laws and Hubble Space Telescope Observations of the Guitar Nebula. S. Chatterjee & J. M. Cordee. 575, 407 (2002)

Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)

Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8—2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)

STARS: NOVAE, CATACLYSMIC VARIABLES

Chandra Observation of the Globular Cluster NGC 6640 and the Nature of Cluster X-Ray Luminosity Functions. David Pooley, Walter H. G. Lewin, Frank Verbunt, Lee Homer, Bruce Margon, Bryan M. Gaensler, Victoria M. Kaspi, Jon M. Miller, Derek W. Fox, & Michiel van der Klis. 573, 184 (2002)

Near-Infrared Emission Lines of V723 Cassiopeiae (Nova Cassiopeiae 1995).
Richard J. Rudy, Catherine C. Venturini, David K. Lynch, S. Mazuk, & R. C. Puetter. 573, 794 (2002)

Hubble Space Telescope Spectroscopy of the Dwarf Nova RX Andromedae during Outbust Rise and Decline. Jeremy F. Sepinsky, Edward M. Sion, Paula Szkody, & Boris T. Gänsicke. 574, 937 (2002)

Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)

Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. Gänsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)

Hubble Space Telescope Spectra of GW Librae: A Hot Pulsating White Dwarf in a Cataclysmic Variable. Paula Szkody, Boris T. Gänsicke, Steve B. Howell, & Edward M. Sion. 575, L79 (2002)

STARS: OSCILLATIONS

Mode-switching Timescales in the Classical Variable Stars. J. Robert Buchler & Zoltán Kolláth. 573, 324 (2002)

The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII.
Three Cepheid Variables in Eclipsing Binaries. C. Alcock, R. A. Allsman,
D. R. Alves, A. C. Becker, D. P. Bennett, K. H. Cook, A. J. Drake, K. C.
Freeman, K. Griest, S. L. Hawley, S. Keller, M. J. Lehner, D. Lepischak,
S. L. Marshall, D. Minniti, C. A. Nelson, B. A. Peterson, P. Popowski,
M. R. Pratt, P. J. Quinn, A. W. Rodgers, N. Suntzeff, W. Sutherland,

- T. Vandehei, & D. L. Welch (The MACHO Collaboration). 573, 338 (2002)
- Measuring 12 C(α , γ) 16 O from White Dwarf Asteroseimology. *T. S. Metcalfe, M. Salaris, & D. E. Winget.* 573, 803 (2002)
- On the Distance of Magellanic Clouds: First Overtone Cepheids. G. Bono, M. A. T. Groenewegen, M. Marconi, & F. Caputo. 574, L33 (2002)
- Low-Mass X-Ray Binaries May Be Important Laser Interferometer Gravitational-Wave Observatory Sources After All. Jeremy S. Heyl. 574, L57 (2002)
- r-Modes in the Ocean of a Magnetic Neutron Star. Vahid Rezania. 574, 899 (2002)
- Normal Modes of Rotating Magnetic Stars. S. M. Morsink & V. Rezania. 574, 908 (2002)

STARS: OF-TYPE

Hubble Space Telescope Spectra of GW Librae: A Hot Pulsating White Dwarf in a Cataclysmic Variable. Paula Szkody, Boris T. Gänsicke, Steve B. Howell, & Edward M. Sion. 575, L79 (2002)

STARS: PECULIAR

Rotational Velocities of B Stars. Helmut A. Abt, Hugo Levato, & Monica Grosso. 573, 359 (2002)

STARS: PLANETARY SYSTEMS

- Mid-Infrared Images of the Debris Disk around HD 141569. K. A. Marsh, M. D. Silverstone, E. E. Becklin, D. W. Koerner, M. W. Werner, A. J. Weinberger, & M. E. Ressler. 573, 425 (2002)
- Perturbative Approach to the Astrometric Microlensing Due to an Extrasolar Planet. *Hideki Asada*. 573, 825 (2002)
- Calculating the Tidal, Spin, and Dynamical Evolution of Extrasolar Planetary Systems. Rosemary A. Mardling & D. N. C. Lin. 573, 829 (2002)
- Detecting Outer Planets in Edge-on Orbits: Combining Radial Velocity and Astrometric Techniques. J. A. Eisner & S. R. Kulkarni. 574, 426 (2002)
- The Spectrum of Earthshine: A Pale Blue Dot Observed from the Ground.
 N. J. Woolf, P. S. Smith, W. A. Traub, & K. W. Jucks. 574, 430 (2002)
 Constraining the Rotation Rate of Transiting Extrasolar Planets by Oblateness
- Measurements. S. Seager & Lam Hui. 574, 1004 (2002)
 The Impact of Solar-like Variability on the Detectability of Transiting
- Terrestrial Planets. Jon M. Jenkins, 575, 493 (2002)
- A Dynamical Mechanism for Establishing Apsidal Resonance. *Renu Malhotra*. 575, L33 (2002)
- Stability of Satellities around Close-in Extrasolar Giant Planets. Jason W. Barnes & D. P. O'Brien. 575, 1087 (2002)

STARS: PLANETARY SYSTEMS: FORMATION

- Calculating the Tidal, Spin, and Dynamical Evolution of Extrasolar Planetary Systems. Rosemary A. Mardling & D. N. C. Lin. 573, 829 (2002)
- Halting Planet Migration in the Evacuated Centers of Protoplanetary Disks. Marc J. Kuchner & Myron Lecar. 574, L87 (2002)

STARS: PLANETARY SYSTEMS: PROTOPLANETARY DISKS

- Halting Planet Migration in the Evacuated Centers of Protoplanetary Disks. Marc J. Kuchner & Myron Lecar. 574, L87 (2002)
- NICMOS Images of the GG Tau Circumbinary Disk. C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002)

STARS: POPULATION II

- Behavior of Sulfur Abundances in Metal-poor Giants and Dwarfs. Masahide Takada-Hidai, Yoichi Takeda, Shizuka Sato, Satoshi Honda, Kozo Sadakane, Satoshi Kawanomoto, Wallace L. W. Sargent, Limin Lu, & Thomas A. Barlow. 573, 614 (2002)
- Discovery of an Accreted Stellar System within the Globular Cluster ω Centauri. F. R. Ferraro, M. Bellazzini, & E. Pancino. 573, L95 (2002)
- The White Dwarf Cooling Sequence of the Globular Cluster Messier 4.

 Brad M. S. Hansen, James Brewer, Greg G. Fahlman, Brad K. Gibson,
 Rodrigo Ibata, Marco Limongi, R. Michael Rich, Harvey B. Richer,
 Michael M. Shara, & Peter B. Stetson. 574, L155 (2002)
- Keck NIRSPEC Infrared OH Lines: Oxygen Abundances in Metal-poor Stars Down to [Fe/H] = -2.9. Jorge Meléndez & Beatriz Barbuy. 575, 474 (2002)

STARS: PRE-MAIN-SEQUENCE

Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)

- The Luminosity and Mass Function of the Trapezium Cluster: from B Stars to the Deuterium-burning Limit. August A. Muench, Elizabeth A. Lada, Charles J. Lada, & João Alves. 573, 366 (2002)
- New Tests of Magnetospheric Accretion in T Tauri Stars. Christopher M. Johns-Krull & April D. Gafford. 573, 685 (2002)
- Simulation-based Investigation of a Model for the Interaction between Stellar Magnetospheres and Circumstellar Accretion Disks. Sean Matt, Anthony P. Goodson, Robert M. Winglee, & Karl-Heinz Bohm. 574, 232 (2002)
- Evolution in the Far-Infrared Spectra of Low-Mass Young Embedded Sources.

 Brunella Nisini, Teresa Giannini, & Dario Lorenzetti. 574, 246 (2002)
- X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- The Highly Collimated HH 92 Jet and Parsec-Scale Outflow from IRAS 05399-0121. John Bally, Bo Reipurth, & Colin Aspin. 574, L79 (2002)
- The Role of Damped Alfvén Waves in Magnetospheric Accretion Models of Young Stars. M. J. Vasconcelos, V. Jatenco-Pereira, & R. Opher. 574, 847 (2002)
- Molecular Hydrogen Outflows in W51. Klaus W. Hodapp & Christopher J. Davis. 575, 291 (2002)
- Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
- NICMOS Images of the GG Tau Circumbinary Disk. C. McCabe, G. Duchêne, & A. M. Ghez. 575, 974 (2002)
- The Origin of the β Pictoris Moving Group. V. G. Ortega, R. de la Reza, E. Jilinski, & B. Bazzanella. 575, L75 (2002)

STARS: PULSARS: GENERAL

- A Comprehensive Study of Neutron Star Retention in Globular Clusters. Eric Pfahl, Saul Rappaport, & Philipp Podsiadlowski. 573, 283 (2002)
- Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)
- Discovery of a Possible Anomolous X-Ray Pulsar in the Small Magellanic Cloud. R. C. Lamb, D. W. Fox, D. J. Macomb, & T. A. Prince. 574, L29 (2002)
- The Scintillation Velocity of the Relativistic Binary Pulsar PSR J1141-6545.
 S. M. Ord, M. Bailes, & W. van Straten. 574, L75 (2002)
- Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)

STARS: PULSARS: INDIVIDUAL

Name: Crab Nebula

Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)

Name: Crab Pulsar

Magnetohydrodynamic Accleration of the Crab Pulsar Wind. I. Okamoto. 573, L31 (2002)

Name: Vela pulsar

Gamma-Ray Burst Afterglows in Pulsar-Wind Bubbles. Arieh Königl & Jonathan Granot. 574, 134 (2002)

Alphanumeric: GX 301-2

Broadening of Nearly Neutral Iron Emission Line of GX 301-2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)

Alphanumeric: OAO 1657-415

The X-Ray Position and Infrared Counterpart of the Eclipsing X-Ray Pulsar OAO 1657–415. Deepto Chakrabarty, Zhongxiang Wang, Adrienne M. Juett, Julia C. Lee, & Paul Roche. 573, 789 (2002)

Alphanumeric: PSR B0656+14

Using the High-Resolution X-Ray Spectrum of PSR B0656+14 to Constrain the Chemical Composition of the Neutron Star Atmosphere. Herman L. Marshall & Norbert S. Schulz. 574, 377 (2002)

Alphanumeric: PSR B1757-24

Decapitating the Duck: The (Non)Association of PSR B1757-24 and Supernova Remnant G5.4-1.2. S. E. Thorsett, W. F. Brisken, & W. M. Goss. 573, L111 (2002)

Alphanumeric: PSR J1141-6545

The Scintillation Velocity of the Relativistic Binary Pulsar PSR J1141-6545. S. M. Ord, M. Bailes, & W. van Straten. 574, L75 (2002)

Alphanumeric: PSR J1740+5340

PSR J1740-5340: Accretion Inhibited by Radio Ejection in a Binary Millisecond Pulsar in the Globular Cluster NGC 6397. Luciano Burderi, Francesca D'Antona, & Marta Burgay. 574, 325 (2002)

Alphanumeric: PSR J1846-0258

BeppoSAX Observations of the Young Pulsar in the Kes 75 Supernova Remnant. S. Mereghetti, R. Bandiera, F. Bocchino, & G. L. Israel. 574, 873 (2002)

Alphanumeric: XTE J1751-305

Discovery of a Second Millisecond Accreting Pulsar: XTE J1751–305. C. B. Markwardt, J. H. Swank, T. E. Strohmayer, J. J. M. in't Zand, & F. E. Marshall. 575, L21 (2002)

STARS: ROTATION

Rotational Velocities of B Stars. Helmut A. Abt, Hugo Levato, & Monica Grosso. 573, 359 (2002)

Boron in the Small Magellanic Cloud: A Novel Test of Light-Element Production. A. M. Brooks, K. A. Venn, D. L. Lambert, M. Lemke, K. Cunha, & V. V. Smith. 573, 584 (2002)

Stellar Mixing and the Primordial Lithium Abundance. M. H. Pinsonneault, G. Steigman, T. P. Walker, & V. K. Narayanan. 574, 398 (2002)

r-Modes in the Ocean of a Magnetic Neutron Star. Vahid Rezania. 574, 899 (2002)

Normal Modes of Rotating Magnetic Stars. S. M. Morsink & V. Rezania. 574, 908 (2002)

Angular Momentum Exraction by Gravity Waves in the Sun. Suzanne Talon, Pawan Kumar, & Jean-Paul Zahn. 574, L175 (2002)

The Coronal Topology of the Rapidly Rotating K0 Dwarf AB Doradus. I. Using Surface Magnetic Field Maps to Model the Structure of the Stellar Corona. G. A. J. Hussain, A. A. van Ballegooijen, M. Jardine, & A. Collier Cameron. 575, 1078 (2002)

STARS: STATISTICS

A Comprehensive Study of Neutron Star Retention in Globular Clusters. Eric Pfahl, Saul Rappaport, & Philipp Podsiadlowski. 573, 283 (2002)

STARS: SUBDWARFS

Classifying Luyten Stars Using an Optical-Infrared Reduced Proper-Motion Diagram. Samir Salim & Andrew Gould. 575, L83 (2002)

STARS: SUPERNOVAE: GENERAL

Optical and Infrared Observations of the Supernova SN 1999el. E. Di Carlo, F. Massi, G. Valentini, A. Di Paola, F. D'Alessio, E. Brocato, D. Guidubaldi, M. Dolci, F. Pedichini, R. Speziali, G. Li Causi, A. Carattio Garatti, E. Cappellaro, M. Turatto, A. A. Arkharov, Y. Gnedin, V. M. Larionov, S. Benetti, A. Pastorello, I. Aretxaga, V. Chavushyan, O. Vega, I. J. Danziger, & A. Tornambé. 573, 144 (2002)

A Search for Radio Emission from Supernovae with Ages from about 1 Week to More than 80 Years. Christopher R. Eck, John J. Cowan, & David

Branch. 573, 306 (2002)

Bullets in a Core-Collapse Supernova Remnant: The Vela Remnant. *Chih-Yueh Wang & Roger A. Chevalier.* 574, 155 (2002)

A New Class of High-Mass X-Ray Binaries for Core Collapse and Neutron Star Recoil. Eric Pfahl, Saul Rappaport, Philipp Podsiadlowski, & Hendrik Spruit. 574, 364 (2002)

Jet-Triggered Type Ia Supernovae in Radio Galaxies? Alessandro Capetti. 574, L25 (2002)

Modeling Core-Collapse Supernovae in Three Dimensions. Chris L. Fryer & Michael S. Warren. 574, L65 (2002)

Presolar Grains from the Qingzhen (EH3) Meteorite. Yangting Lin, Sachiko Amari, & Olga Pravdivtseva. 575, 257 (2002)

Modified Median Statistics and Type Ia Supernova Data. P. P. Avelino, C. J. A. P. Martins, & P. Pinto. 575, 989 (2002)

STARS: SUPERNOVAE: INDIVIDUAL

Alphanumeric: PKS 1209-51/52

Discovery of Absorption Features in the X-Ray Spectrum of an Isolated Neutron Star. D. Sanwal, G. G. Pavlov, V. E. Zavlin, & M. A. Teter. 574, L61 (2002)

Alphanumeric: SN 1987A

The X-Ray Spectrum of Supernova Remnant 1987A. Eli Michael, Svetozar Zhekov, Richard McCray, Una Hwang, David N. Burrows, Sangwook Park, Gordon P. Garmire, Stephen S. Holt, & Günther Hasinger. 574, 166 (2002)

Alphanumeric: SN 1994I

X-Ray Emission from the Type Ic Supernova 1994I Observed with Chandra. Stefan Immler, Andrew S. Wilson, & Yuichi Terashima. 573, L27 (2002)

Alphanumeric: SN 1995N

Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christopher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, & J. Craig Wheeler. 575, 1007 (2002)

Alphanumeric: SN 1997ab

Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christopher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, & J. Craig Wheeler. 575, 1007 (2002)

Alphanumeric: SN 1998S

Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christopher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, & J. Craig Wheeler. 575, 1007 (2002)

Alphanumeric: SN 1999Z

Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christopher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, & J. Craig Wheeler. 575, 1007 (2002)

Alphanumeric: SN 1999el

Optical and Infrared Observations of the Supernova SN 1999el. E. Di Carlo, F. Massi, G. Valentini, A. Di Paola, F. D'Alessio, E. Brocato, D. Guidubaldi, M. Dolci, F. Pedichini, R. Speziali, G. Li Causi, A. Carattio Garatti, E. Cappellaro, M. Turatto, A. A. Arkharov, Y. Gnedin, V. M. Larionov, S. Benetti, A. Pastorello, I. Aretxaga, V. Chavushyan, O. Vega, I. J. Danziger, & A. Tornambé. 573, 144 (2002)

Extraordinary Late-Time Infrared Emission of Type IIn Supernovae. Christopher L. Gerardy, Robert A. Fesen, Ken'ichi Nomoto, Peter M. Garnavich, Saurabh Jha, Peter M. Challis, Robert P. Kirshner, Peter Höflich, &

J. Craig Wheeler. 575, 1007 (2002)

Alphanumeric: SNR 1987A

Detailed Spectroscopoc Analysis of SN 1987A: The Distance to the Large Magellanic Cloud Using the Spectral-fitting Expanding Atmosphere Method. Robert C. Mitchell, E. Baron, David Branch, Peter H. Hauschildt, Peter E. Nugent, Peter Lundqvist, Sergei Blinnikov, & Chun S. J. Pun. 574, 293 (2002)

STARS: VARIABLES: CEPHEIDS

Mode-switching Timescales in the Classical Variable Stars. J. Robert Buchler & Zoltán Kolláth. 573, 324 (2002)

Long-Baseline Interferometric Observations of Cepheids. Benjamin F. Lane, Michelle J. Creech-Eakman, & Tyler E. Nordgren. 573, 330 (2002)

The MACHO Project Large Magellanic Cloud Variable Star Inventory. XII. Three Cepheid Variables in Eclipsing Binaries. C. Alcock, R. A. Allsman, D. R. Alves, A. C. Becker, D. P. Bennett, K. H. Cook, A. J. Drake, K. C. Freeman, K. Griest, S. L. Hawley, S. Keller, M. J. Lehner, D. Lepischak, S. L. Marshall, D. Minniti, C. A. Nelson, B. A. Peterson, P. Popowski, M. R. Pratt, P. J. Quinn, A. W. Rodgers, N. Suntzeff, W. Sutherland, T. Vandehei, & D. L. Welch (The MACHO Collaboration). 573, 338 (2002)

On the Distance of Magellanic Clouds: First Overtone Cepheids. G. Bono, M. A. T. Groenewegen, M. Marconi, & F. Caputo. 574, L33 (2002)

STARS: VARIABLES: OTHER

Mode-switching Timescales in the Classical Variable Stars. J. Robert Buchler & Zoltán Kolláth. 573, 324 (2002)

STARS: WHITE DWARFS

Astrometry Survey Missions beyond the Magnitude Limit. Samir Salim, Andrew Gould, & Rob P. Olling. 573, 631 (2002)

A Proper-Motion Survey for White Dwarfs with the Wide Field Planetary Camera 2. C. A. Nelson, K. H. Cook, T. S. Axelrod, J. R. Mould, & C. Alcock. 573, 644 (2002)

Measuring ¹²C(α, γ)¹⁶O from White Dwarf Asteroseimology. T. S. Metcalfe, M. Salaris, & D. E. Winget. 573, 803 (2002)

Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)

- Hubble Space Telescope Spectroscopy of the Dwarf Nova RX Andromedae during Outbust Rise and Decline. Jeremy F. Sepinsky, Edward M. Sion, Paula Szkody, & Boris T. Gänsicke. 574, 937 (2002)
- Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)
- The Lower Main Sequence and Mass Function of the Globular Cluster Messier 4. Harvey B. Richer, James Brewer, Gregory G. Fahlman, Brad K. Gibson, Brad M. Hansen, Rodrigo Ibata, Jasonjot S. Kalirai, Marco Limongi, R. Michael Rich, Ivo Saviane, Michael M. Shara, & Peter B. Stetson. 574, L151 (2002)
- The White Dwarf Cooling Sequence of the Globular Cluster Messier 4. Brad M. S. Hansen, James Brewer, Greg G. Fahlman, Brad K. Gibson, Rodrigo Ibata, Marco Limongi, R. Michael Rich, Harvey B. Richer, Michael M. Shara, & Peter B. Stetson. 574, L155 (2002)
- Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. Gänsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)
- Is There Evidence for Rotation or Horizontal Motions in Hot DB White Dwarfs? P. Dufour, F. Wesemael, & P. Bergeron. 575, 1025 (2002)
- Classifying Luyten Stars Using an Optical-Infrared Reduced Proper-Motion Diagram. Samir Salim & Andrew Gould. 575, L83 (2002)

STARS: WINDS, OUTFLOWS

- Galactic Starburst NGC 3603 from X-Rays to Radio. A. F. J. Moffat, M. F. Corcoran, I. R. Stevens, G. Skalkowski, S. V. Marchenko, A. Mücke, A. Ptak, B. S. Koribalski, L. Brenneman, R. Mushotzky, J. M. Pittard, A. M. T. Pollock, & W. Brandner. 573, 191 (2002)
- Magnetohydrodynamic Accleration of the Crab Pulsar Wind. I. Okamoto. 573, L31 (2002)
- Proper Motion in the Knotty, Biploar Jet in Henize 2-90. R. Sahai, S. Brillant, M. Livio, E. K. Grebel, W. Brandner, S. Tingay, & L.-Å. Nyman. 573, L123 (2002)
- Measured Mass-Loss Rates of Solar-like Stars as a Function of Age and Activity. Brian E. Wood, Hans-Reinhard Müller, Gary P. Zank, & Jeffrey L. Linsky. 574, 412 (2002)
- Analysis of H₂ Emission from Mira B in Ultraviolet Spectra from the Hubble Space Telescope. Brian E. Wood, Margarita Karovska, & John C. Raymond. 575, 1057 (2002)

STARS: WOLF-RAYET

- Discovery of an Edge-on Dust Disk around the [WC10] Central Star CPD -56°8032. Orsola De Marco, M. J. Barlow, & M. Cohen. 574, L83 (2002)
- A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)

SUBMILLIMETER

- Properties of Millimeter Galaxies: Constraints from K-Band Fields. H. Dannerbauer, M. D. Lehnert, D. Lutz, L. Tacconi, F. Bertoldi, C. Carilli, R. Genzel, & K. Menten. 573, 473 (2002)
- Magnetic Fields in Star-forming Molecular Clouds. V. Submillimeter Polarization of the Barnard 1 Dark Cloud. Brenda C. Matthews & Christine D. Wilson. 574, 822 (2002)

SUN: ABUNDANCES

- Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon⁻¹. J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner. 573, L59 (2002)
- A Reappraisal of the Solar Photospheric C/O Ratio. Carlos Allende Prieto & David L. Prieto. 573, L137 (2002)
- Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares. G. M. Mason, M. E. Wiedenbeck, J. A. Miller, J. E. Mazur, E. R. Christian, C. M. S. Cohen, A. C. Cummings, J. R. Dwyer, R. E. Gold, S. M. Krimigis, R. A. Leske, R. A. Mewaldt, P. L. Slocum, E. C. Stone, & T. T. von Rosenvinge. 574, 1039 (2002)
- Energetic Particle Abundances as Probes of an Interplanetary Shock Wave. D. V. Reames & A. J. Tylka. 575, L37 (2002)
- Elemental Abundances and Post-Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)

SUN: ACTIVITY

- The Sources of Magnetic Field Twist in Solar Active Regions. S. D. Bao, T. Sakurai, & Y. Suematsu. 573, 445 (2002)
- On Magnetic Flux Imbalance in Solar Active Regions. Debi Prasad Choudhary, P. Venkatakrishnan, & Sanjay Gosain. 573, 851 (2002)
- Photospheric Motions and Coronal Mass Ejection Productivity. A. Nindos & H. Zhang. 573, L133 (2002)
- Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- The Structure and Evolution of a Sigmoidal Active Region. S. E. Gibson, L. Fletcher, G. Del Zanna, C. D. Pike, H. E. Mason, C. H. Mandrini, P. Démoulin, H. Gilbert, J. Burkepile, T. Holzer, D. Alexander, Y. Liu, N. Nitta, J. Qiu, B. Schmieder, & B. J. Thompson. 574, 1021 (2002)
- Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photospheric/Chromospheric Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- Coronal White-Light Jets near Sunspot Maximum. Y. M. Wang & N. R. Sheeley, Jr. 575, 542 (2002)
- Imaging Spectroscopy of a Sunspot: Thermal and Velocity Structure. K. S. Balasubramaniam. 575, 553 (2002)
- Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)
- Elemental Abundances and Post-Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)
- Statistical Properties of the Energy Release in Emerging and Evolving Active Regions. Loukas Vlahos, Tassos Fragos, Heinz Isliker, & Manolis Georgoulis. 575, L87 (2002)

SUN: ATMOSPHERIC MOTIONS

- Imaging Spectroscopy of a Sunspot: Thermal and Velocity Structure. K. S. Balasubramaniam. 575, 553 (2002)
- A New Component of Solar Dynamics: North-South Diverging Flows Migrating toward the Equator with an 11 Year Period. J. G. Beck, L. Gizon, & T. L. Duvall, Jr. 575, L47 (2002)
- Converging Flows in the Penumbra of a δ Sunspot. B. W. Lites, H. Socas-Navarro, A. Skumanich, & T. Shimizu. 575, 1131 (2002)

SUN: CHROMOSPHERE

- Statistics, Morphology, and Energetics of Ellerman Bombs. Manolis K. Georgoulis, David M. Rust, Pietro N. Bernasconi, & Brigitte Schmieder. 575, 506 (2002)
- Does the Sun Have a Full-Time COMOSPHERE? Thomas R. Ayres. 575, 1104 (2002)

SUN: CORONA

- Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode, 574, 434 (2002)
- Interaction of EIT Waves with Coronal Active Regions. L. Ofman & B. J. Thompson. 574, 440 (2002)
- Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- Boundary Structures and Changes in Long-lived Coronal Holes. S. W. Kahler & H. S. Hudson. 574, 467 (2002)
- Two-dimensional Structure of a Polar Coronal Hole at Solar Minimum: New Semiepirical Methodology for Deriving Plasma Parameters. L. Zangrilli, G. Poletto, P. Nicolosi, G. Noci, & M. Romoli. 574, 477 (2002)
- A Comparison between Coronal Emission Lines from an Isothermal Spectrum Observed with the Coronal Diagnostic Spectrometer and CHIANTI Emissivities. E. Landi, U. Feldman, & K. P. Dere. 574, 495 (2002)
- The Timing of Flares Associated with the Two Dynamical Types of Solar Coronal Mass Ejections. M. Zhang, L. Golub, E. DeLuca, & J. Burkepile. 574, L97 (2002)
- Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photospheric/Chromospheric

- Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- Coronal White-Light Jets near Sunspot Maximum. Y. M. Wang & N. R. Sheeley, Jr. 575, 542 (2002)
- Coronal Heating Distribution Due to Low-Frequency, Wave-driven Turbulence.
 P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)
- Coronal Magnetic Field Relaxation by Null-Point Reconnection. S. K. Antiochos, J. T. Karpen, & C. R. DeVore. 575, 578 (2002)
- Elemental Abundances and Post-Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)

SUN: CORONAL MASS EJECTIONS (CMES)

- Photospheric Motions and Coronal Mass Ejection Productivity. A. Nindos & H. Zhang. 573, L133 (2002)
- The Timing of Flares Associated with the Two Dynamical Types of Solar Coronal Mass Ejections. M. Zhang, L. Golub, E. DeLuca, & J. Burkepile. 574, L97 (2002)
- Energy of Force-free Magnetic Fields in Relation to Coronal Mass Ejections. G. S. Choe & C. Z. Cheng. 574, L179 (2002)
- Coronal White-Light Jets near Sunspot Maximum. Y. M. Wang & N. R. Sheeley, Jr. 575, 542 (2002)
- Energetic Particle Abundances as Probes of an Interplanetary Shock Wave. D. V. Reames & A. J. Tylka. 575, L37 (2002)
- Elemental Abundances and Post-Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)

SUN: FILAMENTS

Coronal White-Light Jets near Sunspot Maximum. Y. M. Wang & N. R. Sheeley, Jr. 575, 542 (2002)

SUN: FLARES

- Directionality of Solar Flare–accelerated Protons and α-Particles from γ-Ray Line Measurements. Gerald H. Share, Ronald J. Murphy, Jürgen Kiener, & Nicolas de Séréville. 573, 464 (2002)
- Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
- The Timing of Flares Associated with the Two Dynamical Types of Solar Coronal Mass Ejections. M. Zhang, L. Golub, E. DeLuca, & J. Burkepile. 574, L97 (2002)
- Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares. G. M. Mason, M. E. Wiedenbeck, J. A. Miller, J. E. Mazur, E. R. Christian, C. M. S. Cohen, A. C. Cummings, J. R. Dwyer, R. E. Gold, S. M. Krimigis, R. A. Leske, R. A. Mewaldt, P. L. Slocum, E. C. Stone, & T. T. von Rosenvinge. 574, 1039 (2002)
- Solar Submillimeter and Gamma-Ray Burst Emission. P. Kaufmann, J.-P. Raulin, A. M. Melo, E. Correia, J. E. R. Costa, C. G. Giménez de Castro, A. V. R. Silva, M. Yoshimori, H. S. Hudson, W. Q. Gan, D. E. Gary, P. T. Gallagher, H. Levato, A. Marun, & M. Rovira. 574, 1059 (2002)
- Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
- Statistics, Morphology, and Energetics of Ellerman Bombs. Manolis K. Georgoulis, David M. Rust, Pietro N. Bernasconi, & Brigitte Schmieder. 575, 506 (2002)
- Statistical Properties of the Energy Release in Emerging and Evolving Active Regions. Loukas Vlahos, Tassos Fragos, Heinz Isliker, & Manolis Georgoulis. 575, L87 (2002)

SUN: INFRARED

Does the Sun Have a Full-Time COMOSPHERE? Thomas R. Ayres. 575, 1104 (2002)

SUN: INTERIOR

- The Sources of Magnetic Field Twist in Solar Active Regions. S. D. Bao, T. Sakurai, & Y. Suematsu. 573, 445 (2002)
- Inversion of the Internal Solar Rotation Rate. A. Eff-Darwich, S. G. Korzennik, & S. J. Jimenez-Reyes. 573, 857 (2002)
- Angular Momentum Exraction by Gravity Waves in the Sun. Suzanne Talon, Pawan Kumar, & Jean-Paul Zahn. 574, L175 (2002)

Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati. Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)

SUN: MAGNETIC FIELDS

- Characterization of Magnetic Flux in the Quiet Sun. B. W. Lites. 573, 431 (2002)
- The Sources of Magnetic Field Twist in Solar Active Regions. S. D. Bao, T. Sakurai, & Y. Suematsu. 573, 445 (2002)
- Study of Stochastic Fluctuations in a Shell Dynamo. Pablo D. Mininni & Daniel O. Gómez. 573, 454 (2002)
- On Magnetic Flux Imbalance in Solar Active Regions. Debi Prasad Choudhary, P. Venkatakrishnan, & Sanjay Gosain. 573, 851 (2002)
- On the Atomic Polarization of the Ground Level of Na 1. Roberto Casini, Egidio Landi Degl'Innocenti, Marco Landolfi, & Javier Trujillo Bueno. 573, 864 (2002)
- Photospheric Motions and Coronal Mass Ejection Productivity. A. Nindos & H. Zhang, 573, L133 (2002)
- Interaction of EIT Waves with Coronal Active Regions. L. Ofman & B. J. Thompson. 574, 440 (2002)
- Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- Boundary Structures and Changes in Long-lived Coronal Holes. S. W. Kahler & H. S. Hudson. 574, 467 (2002)
- Shear-driven Field-Line Opening and the Loss of a Force-free Magnetostatic Equilibrium. *Dmitri A. Uzdensky*, 574, 1011 (2002)
- The Structure and Evolution of a Sigmoidal Active Region. S. E. Gibson, L. Fletcher, G. Del Zanna, C. D. Pike, H. E. Mason, C. H. Mandrini, P. Démoulin, H. Gilbert, J. Burkepile, T. Holzer, D. Alexander, Y. Liu, N. Nitta, J. Qiu, B. Schmieder, & B. J. Thompson. 574, 1021 (2002)
- Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
- Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photospheric/Chromospheric Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- Statistics, Morphology, and Energetics of Ellerman Bombs. Manolis K. Georgoulis, David M. Rust, Pietro N. Bernasconi, & Brigitte Schmieder. 575, 506 (2002)
- Magnetic Fields in Prominences: Inversion Techniques for Spectropolarimetric Data of the He 1 D₃ Line. A. López Ariste & R. Casini. 575, 529 (2002)
- Coronal White-Light Jets near Sunspot Maximum. Y. M. Wang & N. R. Sheeley, Jr. 575, 542 (2002)
- Imaging Spectroscopy of a Sunspot: Thermal and Velocity Structure. K. S. Balasubramaniam. 575, 553 (2002)
- Coronal Magnetic Field Relaxation by Null-Point Reconnection. S. K. Antiochos, J. T. Karpen, & C. R. DeVore. 575, 578 (2002)
- Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)
- Converging Flows in the Penumbra of a δ Sunspot. B. W. Lites, H. Socas-Navarro, A. Skumanich, & T. Shimizu. 575, 1131 (2002)
- Statistical Properties of the Energy Release in Emerging and Evolving Active Regions. Loukas Vlahos, Tassos Fragos, Heinz Isliker, & Manolis Georgoulis. 575, L87 (2002)

SUN: PARTICLE EMISSION

- Directionality of Solar Flare–accelerated Protons and α -Particles from γ -Ray Line Measurements. *Gerald H. Share, Ronald J. Murphy, Jürgen Kiener, & Nicolas de Séréville.* 573, 464 (2002)
- Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon⁻¹. J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner. 573, L59 (2002)
- Energetic Particle Abundances as Probes of an Interplanetary Shock Wave. D. V. Reames & A. J. Tylka. 575, L37 (2002)

SUN: PHOTOSPHERE

- The Sources of Magnetic Field Twist in Solar Active Regions. S. D. Bao, T. Sakurai, & Y. Suematsu. 573, 445 (2002)
- On Magnetic Flux Imbalance in Solar Active Regions. Debi Prasad Choudhary, P. Venkatakrishnan, & Sanjay Gosain. 573, 851 (2002)

- A Reappraisal of the Solar Photospheric C/O Ratio. Carlos Allende Prieto & David L. Prieto. 573, L137 (2002)
- Flare Activity and Magnetic Helicity Injection by Photospheric Horizontal Motions. Y.-J. Moon, Jongchul Chae, G. S. Choe, Haimin Wang, Y. D. Park, H. S. Yun, Vasyl Yurchyshyn, & Philip R. Goode. 574, 1066 (2002)
- Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photospheric/Chromospheric Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)
- Statistics, Morphology, and Energetics of Ellerman Bombs. Manolis K. Georgoulis, David M. Rust, Pietro N. Bernasconi, & Brigitte Schmieder. 575, 506 (2002)
- Imaging Spectroscopy of a Sunspot: Thermal and Velocity Structure. K. S. Balasubramaniam. 575, 553 (2002)
- Does the Sun Have a Full-Time COMOSPHERE? Thomas R. Ayres. 575, 1104 (2002)
- Statistical Properties of the Energy Release in Emerging and Evolving Active Regions. Loukas Vlahos, Tassos Fragos, Heinz Isliker, & Manolis Georgoulis. 575, L87 (2002)

SUN: PROMINENCES

- Magnetic Fields in Prominences: Inversion Techniques for Spectropolarimetric Data of the He | D₃ Line. A. López Ariste & R. Casini. 575, 529 (2002)
- Coronal White-Light Jets near Sunspot Maximum. Y. M. Wang & N. R. Sheeley, Jr. 575, 542 (2002)

SUN: RADIO RADIATION

- Solar Particle Event with Exceptionally High ³He Enhancement in the Energy Range up to 50 MeV Nucleon⁻¹. J. Torsti, L. Kocharov, J. Laivola, N. Lehtinen, M. L. Kaiser, & M. J. Reiner. 573, L59 (2002)
- Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- Generation of Type III Solar Radio Bursts in the Low Corona by Direct Amplification. C. S. Wu, C. B. Wang, Peter H. Yoon, H. N. Zheng, & S. Wang, 575, 1094 (2002)

SUN: ROTATION

- Inversion of the Internal Solar Rotation Rate. A. Eff-Darwich, S. G. Korzennik, & S. J. Jimenez-Reyes. 573, 857 (2002)
- Flux Transport Dynamos with Near-Surface Radial Shear. Mausumi Dikpati, Thierry Corbard, Michael J. Thompson, & Peter A. Gilman. 575, L41 (2002)
- A New Component of Solar Dynamics: North-South Diverging Flows Migrating toward the Equator with an 11 Year Period. J. G. Beck, L. Gizon, & T. L. Duvall, Jr. 575, L47 (2002)

SUN: SOLAR-TERRESTRIAL RELATIONS

Photospheric Motions and Coronal Mass Ejection Productivity. A. Nindos & H. Zhang. 573, L133 (2002)

SUN: SOLAR WIND

- Particle Acceleration in Solar Wind Comression Regions. J. Giacalone, J. R. Jokipii, & J. Kóta. 573, 845 (2002)
- Two-dimensional Structure of a Polar Coronal Hole at Solar Minimum: New Semiepirical Methodology for Deriving Plasma Parameters. L. Zangrilli, G. Poletto, P. Nicolosi, G. Noci, & M. Romoli. 574, 477 (2002)
- Spectral Properties of He and Heavy Ions in ³He-rich Solar Flares. G. M. Mason, M. E. Wiedenbeck, J. A. Miller, J. E. Mazur, E. R. Christian, C. M. S. Cohen, A. C. Cummings, J. R. Dwyer, R. E. Gold, S. M. Krimigis, R. A. Leske, R. A. Mewaldt, P. L. Slocum, E. C. Stone, & T. T. von Rosenvinge. 574, 1039 (2002)

SUN: SUNSPOTS

- Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- Imaging Spectroscopy of a Sunspot: Thermal and Velocity Structure. K. S. Balasubramaniam. 575, 553 (2002)
- Converging Flows in the Penumbra of a δ Sunspot. B. W. Lites, H. Socas-Navarro, A. Skumanich, & T. Shimizu. 575, 1131 (2002)

SUN: UV RADIATION

Measurments of Three-dimensional Coronal Magnetic Fields from Coordinated Extreme-Ulraviolet and Radio Observations of a Solar Active Region

- Sunspot. Jeffrey W. Brosius, Enrico Landi, John W. Cook, Jeffrey S. Newmark, N. Gopalswamy, & Alejandro Lara. 574, 453 (2002)
- Two-dimensional Structure of a Polar Coronal Hole at Solar Minimum: New Semiepirical Methodology for Deriving Plasma Parameters. L. Zangrilli, G. Poletto, P. Nicolosi, G. Noci, & M. Romoli. 574, 477 (2002)
- A Comparison between Coronal Emission Lines from an Isothermal Spectrum Observed with the Coronal Diagnostic Spectrometer and CHIANTI Emissivities. E. Landi, U. Feldman, & K. P. Dere. 574, 495 (2002)
- The Effect of High-lying Levels on Atomic Levels Relevant to Spectroscopic Analysis of Solar Extreme-Ultraviolet Spectra. R. Doron, G. A. Doschek, U. Feldman, A. K. Bhatia, & A. Bar-Shalom. 574, 504 (2002)
- Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- Statistics, Morphology, and Energetics of Ellerman Bombs. Manolis K. Georgoulis, David M. Rust, Pietro N. Bernasconi, & Brigitte Schmieder. 575, 506 (2002)
- Elemental Abundances and Post-Coronal Mass Ejection Current Sheet in a Very Hot Active Region. A. Ciaravella, J. C. Raymond, J. Li, P. Reiser, L. D. Gardner, Y.-K. Ko, & S. Fineschi. 575, 1116 (2002)

SUN: X-RAYS, GAMMA RAYS

- Directionality of Solar Flare–accelerated Protons and α-Particles from γ-Ray Line Measurements. Gerald H. Share, Ronald J. Murphy, Jürgen Kiener, & Nicolas de Séréville. 573, 464 (2002)
- Statistical Evidence for Sympathetic Flares. Y.-J. Moon, G. S. Choe, Y. D. Park, Haimin Wang, Peter T. Gallagher, Jongchul Chae, H. S. Yun, & Philip R. Goode. 574, 434 (2002)
- Doppler Shift Oscillations of Hot Solar Coronal Plasma Seen by SUMER: A Signature of Loop Oscillations? Tongjiang Wang, S. K. Solanki, W. Curdt, D. E. Innes, & I. E. Dammasch. 574, L101 (2002)
- Photospheric Magnetic Activities Responsible for Soft X-Ray Pointlike Microflares. I. Identifications of Associated Photospheric/Chromospheric Activites. T. Shimizu, R. A. Shine, A. M. Title, T. D. Tarbell, & Z. Frank. 574, 1074 (2002)

SURVEYS

A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies.

R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)

TECHNIQUES: HIGH ANGULAR RESOLUTION

Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)

TECHNIQUES: INTERFEROMETRIC

- Long-Baseline Interferometric Observations of Cepheids. Benjamin F. Lane, Michelle J. Creech-Eakman, & Tyler E. Nordgren. 573, 330 (2002)
- Observations of BL Lacertae Object 1803+784 from the Geodetic VLBI Archive of the Washington Correlator. C. E. Tateyama, K. A. Kingham, P. Kaufmann, & A. M. P. de Lucena. 573, 496 (2002)
- The Light Cone Effect on the Shapiro Time Delay. Hideki Asada. 574, L69 (2002)

TECHNIQUES: PHOTOMETRIC

- A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity. Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)
- The Impact of Solar-like Variability on the Detectability of Transiting Terrestrial Planets. Jon M. Jenkins. 575, 493 (2002)

TECHNIQUES: POLARIMETRIC

- Characterization of Magnetic Flux in the Quiet Sun. B. W. Lites. 573, 431
- Converging Flows in the Penumbra of a δ Sunspot. B. W. Lites H. Socas-Navarro, A. Skumanich, & T. Shimizu. 575, 1131 (2002)

TECHNIQUES: RADIAL VELOCITIES

Detecting Outer Planets in Edge-on Orbits: Combining Radial Velocity and Astrometric Techniques. J. A. Eisner & S. R. Kulkarni. 574, 426 (2002)

TECHNIQUES: SPECTROSCOPIC

Theoretical Spectral Models of T Dwarfs at Short Wavelengths and Their Comparison with Data. Adam Burrows, Adam J. Burgasser, J. Davy Kirkpatrick, James Liebert, J. A. Milsom, D. Sudarsky, & I. Hubeny. 573, 394 (2002)

- A Study of π Aquarii during a Quasi-normal Star Phase: Refined Fundamental Parameters and Evidence for Binarity. Karen S. Bjorkman, Anatoly S. Miroshnichenko, David McDavid, & Tatiana M. Pogrosheva. 573, 812 (2002)
- The Effect of High-lying Levels on Atomic Levels Relevant to Spectroscopic Analysis of Solar Extreme-Ultraviolet Spectra. R. Doron, G. A. Doschek, U. Feldman, A. K. Bhatia, & A. Bar-Shalom. 574, 504 (2002)
- The X-Ray Spectrum of Fe¹⁶⁺ Revisited with a Multi-Ion Model. *Rami Doron & Ehud Behar.* 574, 518 (2002)
- The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy. Shai Kaspi, W. N. Brandt, Ian M. George, Hagai Netzer, D. Michael Crenshaw, Jack R. Gabel, Frederick W. Hamann, Mary Elizabeth Kaiser, Anuradha Koratkar, Steven B. Kraemer, Gerard A. Kriss, Smita Mathur, Richard F. Mushotzky, Kirpal Nandra, Bradley M. Peterson, Joseph C. Shields, T. J. Turner, & Wei Zheng, 574, 643 (2002)
- Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)

TURBULENCE

- On the Generation of Flux-Tube Waves in Stellar Convection Zones. IV. Longitudinal Wave Energy Spectra and Fluxes for Stars with Nonsolar Metallicities. Z. E. Musielak, R. Rosner, & P. Ulmschneider. 573, 418 (2002)
- Scaling Relations of Supersonic Turbulance in Star-forming Molecular Clouds. Stanislav Boldyrev, Åke Nordlund, & Paolo Padoan. 573, 678 (2002)
- Numerical Models of Viscous Accretion Flows near Black Holes. Jonathan C. McKinney & Charles F. Gammie. 573, 728 (2002)
- On the Nature of Angular Momentum Transport in Nonradiative Accretion Flows. Steven A. Balbus & John F. Hawley. 573, 749 (2002)
- H I: A Chemical Tracer of Turbulent Diffusion in Molecular Clouds. Karen Willacy, William D. Langer, & Mark Allen. 573, L119 (2002)
- Cooling Flows of Self-gravitating, Rotating, Viscous Systems. M Shadmehri & Jamshid Ghanbari. 574, 198 (2002)
- The Role of Damped Alfvén Waves in Magnetospheric Accretion Models of Young Stars. M. J. Vasconcelos, V. Jatenco-Pereira, & R. Opher. 574, 847 (2002)
- Coronal Heating Distribution Due to Low-Frequency, Wave-driven Turbulence.
 P. Dmitruk, W. H. Matthaeus, L. J. Milano, S. Oughton, G. P Zank, & D. J. Mullan. 575, 571 (2002)
- Eletrostatic Turbulence and Debye-Scale Structures Associated with Electron Thermalization at Collisional Shocks. S. D. Bale, A. Hull, D. E. Larson, R. P. Lin, L. Muschietti, P. J. Kellogg, K. Goetz, & S. J. Monson. 575, L25 (2002)
- Magnetohydrodynamic Turbulence as a Foreground for Cosmic Microwave Background Studies. *Jungyeon Cho & A. Lazarian.* 575, L63 (2002)

ULTRAVIOLET: GALAXIES

- Ultraviolet Spectra of Star-forming Galaxies with Time-dependent Dust Obscuration. Claus Leitherer, Daniela Calzetti, & Lucimara P. Martins. 574, 114 (2002)
- Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)

ULTRAVIOLET: ISM

- Measured Mass-Loss Rates of Solar-like Stars as a Function of Age and Activity. Brian E. Wood, Hans-Reinhard Müller, Gary P. Zank, & Jeffrey L. Linsky. 574, 412 (2002)
- Ultraviolet Detection of Interstellar ¹²C¹⁷O and the CO Isotopomeric Rations toward X Persei. Yaron Sheffer, David L. Lambert, & S. R. Federman. 574, L171 (2002)
- ORFEUS Observations of the Foreground Gas toward HD 37903. Dae-Hee Lee, Kyoung-Wook Min, S. R. Federman, Kwang-Sun Ryu, Won-Yong Han, Uk-Won Nam, Hyun-Soo Chung, W. Van Dyke Dixon, & Mark Hurwitz. 575, 234 (2002)
- Rocket Observations of Far-Ultraviolet Dust Scattering in NGC 2023. Eric B. Burgh, Stephan R. McCandliss, & Paul D. Feldman. 575, 240 (2002)

ULTRAVIOLET: STARS

Photoevaporation of Clumps in Photodissociation Regions. U. Gorti & D. Hollenbach. 573, 215 (2002)

- Measured Mass-Loss Rates of Solar-like Stars as a Function of Age and Activity. Brian E. Wood, Hans-Reinhard Müller, Gary P. Zank, & Jeffrey L. Linsky. 574, 412 (2002)
- Hubble Space Telescope Spectroscopy of the Dwarf Nova RX Andromedae during Outbust Rise and Decline. Jeremy F. Sepinsky, Edward M. Sion, Paula Szkody, & Boris T. Gänsicke. 574, 937 (2002)
- Cool White Dwarfs in Cataclysmic Variables: Hubble Space Telescope Results on EG Cancri and HV Virginis. Paula Szkody, Boris T. Gänsicke, Edward M. Sion, & Steve B. Howell. 574, 950 (2002)
- Hubble Space Telescope/STIS Spectroscopy of the White Dwarfs in the Short-Period Dwarf Novae LL Andromedae and EF Pegasi. Steve B. Howell, Boris T. Gänsicke, Paula Szkody, & Edward M. Sion. 575, 419 (2002)
- X-Ray and Optical Variations in the Classical Be Star γ Cassiopeia: The Discovery of a Possible Magnetic Dynamo. Richard D. Robinson, Myron A. Smith, & Gregory W. Henry. 575, 435 (2002)
- Analysis of H₂ Emission from Mira B in Ultraviolet Spectra from the Hubble Space Telescope. Brian E. Wood, Margarita Karovska, & John C. Raymond. 575, 1057 (2002)
- Hubble Space Telescope Spectra of GW Librae: A Hot Pulsating White Dwarf in a Cataclysmic Variable. Paula Szkody, Boris T. Günsicke, Steve B. Howell, & Edward M. Sion. 575, L79 (2002)

WAVES

- Interaction of EIT Waves with Coronal Active Regions. L. Ofman & B. J. Thompson. 574, 440 (2002)
- The Role of Damped Alfvén Waves in Magnetospheric Accretion Models of Young Stars. M. J. Vasconcelos, V. Jatenco-Pereira, & R. Opher. 574, 847 (2002)
- Angular Momentum Exraction by Gravity Waves in the Sun. Suzanne Talon, Pawan Kumar, & Jean-Paul Zahn. 574, L175 (2002)

X-RAYS: BINARIES

- PSR J1740-5340: Accretion Inhibited by Radio Ejection in a Binary Millisecond Pulsar in the Globular Cluster NGC 6397. Luciano Burderi, Francesca D'Antona, & Marta Burgay. 574, 325 (2002)
- The Low-Mass X-Ray Binary-Globular Cluster Connection in NGC 4472.
 Arunav Kundu, Thomas J. Maccarone, & Stephen E. Zepf. 574, L5 (2002)
- A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)
- Broadening of Nearly Neutral Iron Emission Line of GX 301–2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)
- Variability in the Thermal Emission from Accreting Neutron Star Transients. Edward F. Brown, Lars Bildsten, & Philip Chang. 574, 920 (2002)
- On the Lack of Type I X-Ray Bursts in Black Hole X-Ray Binaries: Evidence for the Event Horizon? Ramesh Narayan & Jeremy S. Heyl. 574, L139 (2002)
- Two-Temperature Coronal Flow above a Thin Disk. B. F. Liu, S. Mineshige, F. Meyer, E. Meyer-Hofmeister, & T. Kawaguchi. 575, 117 (2002)
- Neutrino Flux Predictions for Known Galactic Microquasars. C. Distefano, D. Guetta, E. Waxman, & A. Levinson. 575, 378 (2002)
- Eclipse Timings of the Low-Mass X-Ray Binary EXO 0748-676. III. Orbital Period Jitter Observed with the Unconventional Stellar Aspect Experiment and the Rossi X-Ray Timing Explorer. Michael T. Wolff, Paul Hertz, Kent S. Wood, Paul S. Ray, & Reba M. Bandyopadhyay. 575, 384 (2002)
- Bayesian Analysis of Radio Observations of the Be X-Ray Binary LS I +61°303. P. C. Gregory. 575, 427 (2002)

X-RAYS: BURSTS

- Discovery of Cyclotron Resonance Features in the Soft Gamma Repeater SGR 1806–20. Alaa I. Ibrahim, Samar Safi-Harb, Jean H. Swank, William Parke, Silvia Zane, & Roberto Turolla. 574, L51 (2002)
- On the Lack of Type I X-Ray Bursts in Black Hole X-Ray Binaries: Evidence for the Event Horizon? Ramesh Narayan & Jeremy S. Heyl. 574, L139 (2002)

X-RAYS: GALAXIES

- Long-Term Spectral Variability of Seyfert Galaxies from Rossi X-Ray Timing Explorer Color-Flux Diagrams. I. E. Papadakis, P. O. Petrucci, L. Maraschi, I. M. McHardy, P. Uttley, & F. Haardt. 573, 92 (2002)
- A Minisurvey of X-Ray Point Sources in Starburst and Nonstarburst Galaxies.
 R. E. Kilgard, P. Kaaret, M. I. Krauss, A. H. Prestwich, M. T. Raley, & A. Zezas. 573, 138 (2002)

- Chandra Observations of Abell 2029: No Cooling Flow and a Steep Abundance Gradient. Aaron D. Lewis, John T. Stocke, & David A. Buote. 573, L13 (2002)
- NGC 4151: An Intrinsically Average Seyfert 1. Andrzej A. Zdziarski, Karen M. Leighly, Masaru Matsuoka, Massimo Cappi, & Tatehiro Mihara. 573, 505 (2002)
- Heated Cooling Flows. Fabrizio Brighenti & William G. Mathews. 573, 542 (2002)
- Discovery of an Ionized Fe K Edge in the z = 3.91 Broad Absorption Line Quasar APM 08279+5255 with XMM-Newton. G. Hasinger, N. Schartel, & S. Komossa. 573, L77 (2002)
- Extreme X-Ray Iron Lines in Active Galactic Nuclei. N. A. Levenson, J. H. Krolik, P. T. Zycki, T. M. Heckman, K. A. Weaver, H. Awaki, & Y. Terashima. 573, L81 (2002)
- Low-Energy X-Ray Emission from the Abell 2199 Cluster of Galaxies. Jelle S. Kaastra, Richard Lieu, Johan A. M. Bleeker, Rolf Mewe, & Sergio Colafrancesco. 574, L1 (2002)
- The Low-Mass X-Ray Binary-Globular Cluster Connection in NGC 4472.
 Arunav Kundu, Thomas J. Maccarone, & Stephen E. Zepf. 574, L5 (2002)
- Creation of X-Ray Holes with Cool Rims in Cooling Flows. Fabrizio Brighenti & William G. Mathews. 574, L11 (2002)
- Complex X-Ray Spectral Variability in Markarian 421 Observed with XMM-Newton. S. Sembay, R. Edelson, A. Markowitz, R. G. Griffiths, & M. J. L. Turner. 574, 634 (2002)
- The Ionized Gas and Nuclear Environment in NGC 3783. I. Time-averaged 900 Kilosecond Chandra Grating Spectroscopy. Shai Kaspi, W. N. Brandt, Ian M. George, Hagai Netzer, D. Michael Crenshaw, Jack R. Gabel, Frederick W. Hamann, Mary Elizabeth Kaiser, Anuradha Koratkar, Steven B. Kraemer, Gerard A. Kriss, Smita Mathur, Richard F. Mushotzky, Kirpal Nandra, Bradley M. Peterson, Joseph C. Shields, T. J. Turner, & Wei Zheng, 574, 643 (2002)
- The Metal Content of Dwarf Starburst Winds: Results from Chandra Observations of NGC 1569. Crystal L. Martin, Henry A. Kobulnicky, & Timothy M. Heckman. 574, 663 (2002)
- Chandra Observation of Low-Mass X-Ray Binaries in the Elliptical Galaxy M84. A. Finoguenov & C. Jones. 574, 754 (2002)
- Two-Temperature Coronal Flow above a Thin Disk. B. F. Liu, S. Mineshige, F. Meyer, E. Meyer-Hofmeister, & T. Kawaguchi. 575, 117 (2002)
- X-Ray Spectra of Intermediate-Luminosity, Radio-loud Quasars. Christina A. Hasenkopf, Rita M. Sambruna, & Michael Eracleous. 575, 127 (2002)
- Spectral Energy Distributions of Flat-Spectrum Radio Quasars Observed with BeppoSAX. F. Tavecchio, L. Maraschi, G. Ghisellini, A. Celotti, L. Chiapetti, A. Comastri, G. Fossati, P. Grandi, E. Pian, G. Tagliaferri, A. Treves, & R. Sambruna. 575, 137 (2002)
- Associated Absorption Lines in the Radio-loud Quasar 3C 351: Far-Ultraviolet Echelle Spectroscopy from the Hubble Space Telescope. Q. Yuan, R. F. Green, M. Brotherton, T. M. Tripp, M. E. Kaiser, & G. A. Kriss. 575, 687 (2002)
- XMM-Newton Reflection Grating Spectrometer Observations of Discrete Soft X-Ray Emission Features from NGC 1068. Ali Kinkhabwala, Masao Sako, Ehud Behar, Steven M. Kahn, Frits Paerels, Albert C. Brinkman, Jelle S. Kaastra, Ming Feng Gu, & Duane A. Liedahl. 575, 732 (2002)

X-RAYS: GALAXIES: CLUSTERS

- The Cluster $M_{\rm gas}$ - T_X Relation: Evidence for a High Level of Preheating. lan G. McCarthy, Arif Babul, & Michael L. Balogh. 573, 515 (2002)
- Hot Bubbles in Cooling Flow Clusters. Noam Soker, Elizabeth L. Blanton, & Craig L. Sarazin. 573, 533 (2002)
- Heated Cooling Flows. Fabrizio Brighenti & William G. Mathews. 573, 542 (2002)
- Chandra Observations of Unresolved X-Ray Sources around Two Clusters of Galaxies. Sandor M. Molnar, John P. Hughes, Megan Donahue, & Marshall Joy. 573, L91 (2002)
- The Distance to Clusters: Correcting for Asphericity. David C. Fox & Ue-Li Pen. 574, 38 (2002)
- Creation of X-Ray Holes with Cool Rims in Cooling Flows. Fabrizio Brighenti & William G. Mathews. 574, L11 (2002)
- An XMM-Newton Observation of NGC 1399 Reveals Two Phases of Hot Gas and Supersolar Abundances in the Central Regions. David A. Buote. 574, L135 (2002)
- Prospects for Detection of Intracluster Gas Bulk Velocities through the Sunyaev-Zeldovich Effect. Renato A. Dupke & Joel N. Bregman. 575, 634 (2002)

Chandra Observations of the Disruption of the Cool Core in A133. Yutaka Fujita, Craig L. Sarazin, Joshua C. Kempner, L. Rudnick, O. B. Slee, A. L. Roy, H. Andernach, & M. Ehle. 575, 764 (2002)

X-RAYS: GENERAL

- The X-Ray Spectrum of Fe¹⁶⁺ Revisited with a Multi-lon Model. Rami Doron & Ehud Behar. 574, 518 (2002)
- Is the EGRET Source 3EG J1621+8203 the Radio Galaxy NGC 6251?
 R. Mukherjee, J. Halpern, N. Mirabal, & E. V. Gotthelf. 574, 693 (2002)
- A BeppoSAX Observation of KS 1731-260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star. L. Burderi, T. Di Salvo, L. Stella, F. Fiore, N. R. Robba, M. van der Klis, R. Iaria, M. Mendez, M. T. Menna, S. Campana, G. Gennaro, S. Rebecchi, & M. Burgay. 574, 930 (2002)

X-RAYS: INDIVIDUAL

Constellation Name: Sagittarius B2

X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with Chandra. Shin-ichiro Takagi, Hiroshi Murakami, & Katsuji Koyama. 573, 275 (2002)

Alphanumeric: 3EG J1621+8203

Is the EGRET Source 3EG J1621+8203 the Radio Galaxy NGC 6251?
R. Mukherjee, J. Halpern, N. Mirabal, & E. V. Gotthelf. 574, 693 (2002)

Alphanumeric: GX 301-2

Broadening of Nearly Neutral Iron Emission Line of GX 301-2 Observed with ASCA. Takao Endo, Manabu Ishida, Kuniaki Masai, Hideyo Kunieda, Hajime Inoue, & Fumiaki Nagase. 574, 879 (2002)

Alphanumeric: RX J1836.2+5925

The Next Geminga: Deep Multiwavelength Observations of a Neutron Star Identified with 3EG J1835+5918. J. P. Halpern, E. V. Gotthelf, N. Mirabal, & F. Camilo. 573, L41 (2002)

X-RAYS: ISM

- Chandra Discovery of a Tree in the X-Ray Forest toward PKS 2155—304: The Local Filament? Fabrizio Nicastro, Andreas Zezas, Jeremy Drake, Martin Elvis, Fabrizio Fiore, Antonella Fruscione, Massimo Marengo, Smita Mathur, & Stefano Bianchi. 573, 157 (2002)
- X-Ray Emission from the Type Ic Supernova 1994I Observed with Chandra. Stefan Immler, Andrew S. Wilson, & Yuichi Terashima. 573, L27 (2002)
- The X-Ray Spectrum of Supernova Remnant 1987A. Eli Michael, Svetozar Zhekov, Richard McCray, Una Hwang, David N. Burrows, Sangwook Park, Gordon P. Garmire, Stephen S. Holt, & Günther Hasinger. 574, 166 (2002)
- ROSAT/ASCA Observations of the Mixed-Morphology Supernova Remnant W28. Jeonghee Rho & Kazimierz J. Borkowski. 575, 201 (2002)

X-RAYS: STARS

- Deep Near-Infrared Observations of the X-Ray-emitting Class 0 Protostar Candidates in the Orion Molecular Cloud 3. Masahiro Tsujimoto, Katsuji Koyama, Yohko Tsuboi, George Chartas, Miwa Goto, Naoto Kobayashi, Hiroshi Terada, & A. T. Tokunaga. 573, 270 (2002)
- X-Ray Sources and Star Formation Activity in the Sagittarius B2 Cloud Observed with Chandra. Shin-ichiro Takagi, Hiroshi Murakami, & Katsuji Koyama. 573, 275 (2002)
- XMM-Newton Observations of the Neutron Star X-Ray Transient KS 1731–260 in Quiescence. Rudy Wijnands, Matteo Guainazzi, Michiel van der Klis, & Mariano Méndez. 573, L45 (2002)
- Hiding in Plain Sight: Chandra Observations of the Quiescent Neutron Star 4U 2129+47 in Eclipse. Michael A. Nowak, Sebastian Heinz, & M. C. Begelman. 573, 778 (2002)
- X-Ray-emitting Young Stars in the Orion Nebula. Eric D. Feigelson, Patrick Broos, James A. Gaffney III, Gordon Garmire, Lynne A. Hillenbrand, Steven H. Pravdo, Leisa Townsley, & Yohko Tsuboi. 574, 258 (2002)
- Electrodynamics of Magnetars: Implications for the Persistent X-Ray Emission and Spin-down of the Soft Gamma Repeaters and Anomalous X-Ray Pulsars. C. Thompson, M. Lyutikov, & S. R. Kulkarni. 574, 332 (2002)
- A New Class of High-Mass X-Ray Binaries for Core Collapse and Neutron Star Recoil. Eric Pfahl, Saul Rappaport, Philipp Podsiadlowski, & Hendrik Spruit. 574, 364 (2002)
- Chandra Discovery of Luminous Supersoft X-Ray Sources in M81. Douglas A. Swartz, Kajal K. Ghosh, Valery Suleimanov, Allyn F. Tennant, & Kinwah Wu. 574, 382 (2002)
- Discovery of a Possible Anomolous X-Ray Pulsar in the Small Magellanic Cloud. R. C. Lamb, D. W. Fox, D. J. Macomb, & T. A. Prince. 574, L29 (2002)

- Discovery of Absorption Features in the X-Ray Spectrum of an Isolated Neutron Star. D. Sanwal, G. G. Pavlov, V. E. Zavlin, & M. A. Teter. 574, L61 (2002)
- Chandra Observation of Low-Mass X-Ray Binaries in the Elliptical Galaxy M84. A. Finoguenov & C. Jones. 574, 754 (2002)
- A Dozen Colliding-Wind X-Ray Binaries in the Star Cluster R136 in the 30 Doradus Region. Simon F. Portegies Zwart, David Pooley, & Walter H. G. Lewin. 574, 762 (2002)
- A BeppoSAX Observation of KS 1731-260 in Its Quiescent State: Constraints on the Magnetic Field of the Neutron Star. L. Burderi, T. Di Salvo, L. Stella, F. Fiore, N. R. Robba, M. van der Klis, R. Iaria, M. Mendez, M. T. Menna, S. Campana, G. Gennaro, S. Rebecchi, & M. Burgay. 574, 930 (2002)
- The Peculiar Infrared Counterpart of GX 17+2. Paul J. Callanan, Peter Curran, Alexei V. Filippenko, Michael R. Garcia, Bruce Margon, Eric Deutsch, Scott Anderson, Lee Homer, & Rob P. Fender. 574, L143 (2002)
- Chandra Study of Young Stellar Objects in the NGC 1333 Star-forming Cloud. Konstantin V. Getman, Eric D. Feigelson, Leisa Townsley, John Bally, Charles J. Lada, & Bo Reipurth. 575, 354 (2002)
- Timing Properties of Magnestars. Feryal Özel. 575, 397 (2002)
- X-Ray and Optical Variations in the Classical Be Star γ Cassiopeia: The Discovery of a Possible Magnetic Dynamo. Richard D. Robinson, Myron A. Smith, & Gregory W. Henry. 575, 435 (2002)
- Discovery of Millisecond Variability in the Neutron Star X-Ray Transient SAX J1750.8-2900. P. Kaaret, J. J. M. in't Zand, J. Heise, & J. A. Tomsick. 575, 1018 (2002)

